

Revision number: 4.4

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Product Names: AlloSeq Tx

Catalogue #s : AlloSeq Tx 17:
 ASTX17.1(24)-IVD, ASTX17.1(24)-B-IVD,
 ASTX17.1(24),
 ASTX17.1(24)-B-RUO, ASTX17.1(96)-A-RUO
 ASTX17.1(96)-B-RUO, ASTX17.1(24)-A-IVD,
 ASTX17.1(96)-B-IVD.
AlloSeq Tx 9:
 ASTX9.1(96)-A-IVD, ASTX9.1(96)-B-IVD,
 ASTX9.1(96)-A-RUO, ASTX9.1(96)-B-RUO

The below components will be documented on an SDS within this document.

Reagent	Hazardous Y/N	Page Number's
PCR Mix	Y	2-11
Tagmentation Buffer	Y	12-23
Hybridisation Buffer 1	Y	24-34
2N NaOH	Y	35-45
Capture Beads	Y	46-58
Purification Beads	N	59-67
Tagmentation Beads	N	68-78
AlloSeq® Tx Index Primers	N	79-87
AlloSeq Tx Probes	N	79-87
PCR Primers	N	79-87
Capture Wash Buffer	N	88-96
Capture Elution Buffer 1	N	97-105
Resuspension Buffer	N	106-114
Hybridisation Buffer 2	N	115-123
Capture Elution Buffer 2	N	124-132
Stop Buffer	Y	133-143
Tagmentation Wash Buffer	N	144-152

The supplier details of the Safety Data Sheets for all components is below:

CareDx Pty Ltd
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 Fremantle
 Western Australia 6160
 AUSTRALIA
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1 IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

1.1 Component identifier:

PCR MIX
 (Mixture; Contains Tetramethylammonium chloride)

1.2 Relevant identified uses of the substance or mixture and uses advised against:

Reagent.

Uses advised against: No information available.

1.3 Details of the supplier of the safety data sheet:

Refer to page 1

Section 2: HAZARDS IDENTIFICATION: PCR MIX

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008: This mixture is classified as hazardous.

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classified as a hazardous substance in accordance with the criteria of Safe Work Australia - Globally Harmonised System (GHS).

Acute toxicity - Oral	Category 4 – (H302)
Specific target organ toxicity — single exposure	Category 2 - (H371)
Chronic aquatic toxicity	Category 3 – (H412)

2.2. Label elements



Signal word:

Danger

Hazard statements:

H302 - Harmful if swallowed

H371 - May cause damage to organs

H412 - Harmful to aquatic life with long lasting effect

Precautionary Statements**EU (§28, 1272/2008) & US Regulation:**

P260 - Do not breathe dust/fume/gas/mist/vapours/spray

P270 - Do not eat, drink or smoke when using this product

P280 - Wear protective gloves/protective clothing/eye protection/face protection

P264 - Wash face, hands and any exposed skin thoroughly after handling

P272 - Contaminated work clothing should not be allowed out of the workplace

P273 - Avoid release to the environment

P308 + P313 - IF exposed or concerned: Get medical advice/attention

P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell

P330 - Rinse mouth

P405 - Store locked up

P501 - Dispose of contents/ container to an approved waste disposal plant

Hazards not otherwise classified (HNOC): Not applicable**Unknown acute toxicity:** 55% of the mixture consists of ingredient(s) of unknown toxicity**2.3. Other hazards****Other hazards:** May be harmful in contact with skin Causes mild skin irritation.**Persistence and degradability:** See Section 12 for additional Ecological Information.**Section 3: COMPOSITION/INFORMATION ON INGREDIENTS****3.1. Substances**

Not Applicable.

3.2. Mixtures

This mixture is classified as hazardous according to regulation (EC) 1272/2008 [CLP].

Chemical name	EC No	CAS No	Weight - %	Classification according to Regulation (EC) No. 1272/2008
Tetramethylammonium chloride	200-880-8	75-57-0	3-7	Acute Tox. 2 (H300) Acute Tox. 3 (H311) STOT SE 1 (H370) Skin Irrit. 2 (H315) Aquatic Chronic 2 (H411)

Additional information: No information available.**Section 4: FIRST AID MEASURES****4.1. Description of first aid measures****General advice:** If symptoms persist, call a doctor. Do not breathe dust/fume/gas/mist/vapours/spray. Do not get in eyes, on skin, or on clothing.**Inhalation:** Remove to fresh air. If breathing is irregular or stopped, administer artificial respiration. Call a doctor. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation.**Skin Contact:** Wash skin with soap and water. Get medical attention if irritation develops and persists.**Eye contact:** IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.**Ingestion:** Rinse mouth. Drink plenty of water. If symptoms persist, call a doctor. Do NOT induce vomiting.**Self-protection of the first aider:** Use personal protective equipment as required.

Most important symptoms and effects, both acute and delayed:

Symptoms: No information available.

Indication of any immediate medical attention and special treatment needed:

Note to physicians: Treat symptomatically.

Section 5: FIRE FIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media: Water. Water spray (fog). Foam. Dry chemical. Carbon dioxide (CO₂).

Unsuitable extinguishing media: None known.

5.2. Special hazards arising from the substance or mixture

None known.

Hazardous combustion products: No information available.

Explosion data Sensitivity to Mechanical Impact: None.

Sensitivity to Static Discharge: None.

5.3. Advice for firefighters

In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment as required.

Section 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions: Use personal protective equipment as required. Keep people away from and upwind of spill/leak.

For emergency responders: Use personal protection recommended in Section 8. Keep unnecessary personnel away.

For non-emergency personnel: Use personal protective equipment as required.

6.2. Environmental precautions

Environmental precautions: Prevent entry into waterways, sewers, basements or confined areas. Do not flush into surface water or sanitary sewer system. See Section 12 for additional Ecological Information.

6.3. Methods and material for containment and cleaning up

Methods for containment: Prevent further leakage or spillage if safe to do so. Dyke far ahead of liquid spill for later disposal.

Methods for cleaning up: Cover liquid spill with sand, earth or other non-combustible absorbent material. Cover powder spill with plastic sheet or tarp to minimise spreading. Pick up and transfer to properly labelled containers.

Prevention of secondary hazards: Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

See section 13 for more information. See section 8 for more information.

Section 7: HANDLING AND STORAGE**7.1. Precautions for safe handling**

Advice on safe handling: Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Wash contaminated clothing before reuse. Do not breathe dust/fume/gas/mist/vapours/spray. Do not eat, drink or smoke when using this product.

General Hygiene Considerations: Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions: Keep container tightly closed in a dry and well-ventilated place. Keep/store only in original container. Store away from incompatible materials.

Incompatible materials: Strong oxidizing agents.

7.3. Specific end use(s)

Specific use(s): reagent.

Risk Management Methods (RMM): The information required is contained in this Material Safety Data Sheet.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**8.1. Control parameters**

Exposure Limits: This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region-specific regulatory bodies.

Derived No Effect Level (DNEL): No information available.

Predicted No Effect Concentration (PNEC): No information available.

8.2. Exposure controls

Engineering Controls: Showers, Eyewash stations, Ventilation systems.

Personal protective equipment:

Eye/face protection: Wear safety glasses with side shields (or goggles).

Hand Protection: Wear protective gloves and protective clothing.

Skin and body protection: Wear chemical-resistant gloves, footwear and protective clothing appropriate for risk of exposure.

Respiratory protection: If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

Environmental exposure controls: Local authorities should be advised if significant spillages cannot be contained. Do not allow onto any sewer, on the ground or into any body of water.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES**9.1. Information on basic physical and chemical properties:**

Physical state: Liquid

Appearance: Colourless liquid

Odour: Odourless

Odour threshold: No data

Colour: Colourless

Property	Values	Remarks
pH		No Information available
Melting point/freezing point		No information available
Boiling Point		No information available
Flash point		No information available
Evaporation Rate		No information available
Flammability		No information available
Vapour pressure		No information available
Vapour Density		No information available
Specific Gravity		No information available
Water Solubility		No information available
Solubilities		No information available
Partition coefficient		No information available
Autoignition temperature		No information available
Decomposition temperature		No information available
Kinematic viscosity		No information available
Dynamic viscosity		No information available
Explosive properties		No information available
Oxidising properties		No information available

9.2. Other information

Softening point: No data available

Molecular weight: No data available

VOC Content (%): No data available

Density: No data available

Bulk density: No data available

Section 10: STABILITY AND REACTIVITY

10.1. Reactivity

The product is stable and non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under recommended storage conditions. Stable under normal conditions.

10.3. Possibility of hazardous reactions

Hazardous polymerization: Hazardous polymerisation does not occur.

Possibility of Hazardous Reactions: None under normal processing.

Hazardous combustion products: No information available.

10.4. Conditions to avoid

None known based on information supplied.

10.5. Incompatible materials

Strong oxidising agents.

10.6. Hazardous decomposition products

None known based on information supplied.

Section 11: TOXICOLOGICAL INFORMATION
11.1. Information on toxicological effects

Product Information: Harmful if swallowed. May cause damage to organs.

Inhalation: Under normal conditions of intended use, this material is not expected to be an inhalation hazard.

Eye contact: No known effect based on information supplied.

Skin Contact: May be harmful in contact with skin.

Ingestion: Harmful if swallowed.

Acute toxicity:

55% of the mixture consists of ingredient(s) of unknown toxicity

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Tetramethylammonium chloride	= 50 mg/kg (Rat)	-	-

Skin corrosion/irritation: Not classified.

Serious eye damage/eye irritation: Not classified.

Sensitisation: Not classified.

Germ cell mutagenicity: Not classified.

Carcinogenicity: Not classifiable as a human carcinogen. This product does not contain any carcinogens as listed by OSHA, IARC or NTP.

Reproductive toxicity: Not classified.

Developmental Toxicity: Not classified.

Teratogenicity: Not classified.

STOT - single exposure: Causes damage to organs.

STOT - repeated exposure: Not classified.

Target organ effects: Eyes, kidney, Respiratory system, Skin.

Symptoms: None known.

Aspiration hazard: Not classified.

Section 12: ECOLOGICAL INFORMATION
12.1. Toxicity

Harmful to aquatic life with long lasting effects

Contains 0% of components with unknown hazards to the aquatic environment.

Chemical name	Algae/aquatic plants	Fish	Crustacea	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Tetramethylammonium chloride 75-57-0	-	431 - 495 mg/L: LC50 96 h Pimephales promelas flow-through	-	Acute Tox. 2 (H300) Acute Tox. 3 (H311) STOT SE 1 (H370) Skin Irrit. 2 (H315) Aquatic Chronic 2 (H411)

12.2. Persistence and degradability

Not a PBT or vPvB substance or mixture.

12.3. Bioaccumulative potential

No data available.

12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

Not a PBT or vPvB substance or mixture.

12.6. Other adverse effects

No data available.

Section 13: DISPOSAL CONSIDERATIONS**13.1. Waste treatment methods****Waste from residues/unused products:**

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging:

Do not re-use container. Disposal should be in accordance with applicable regional, national and local laws and regulations.

Waste codes / waste designations according to EWC / AVV:

Waste codes should be assigned by the user based on the application for which the product was used. Regional, national and local regulations apply.

Other Information:

Waste codes should be assigned by the user based on the application for which the product was used.

Disposal considerations:

Should not be released into the environment This material and its container must be disposed of in a safe way.

Section 14: TRANSPORT INFORMATION**IMDG**

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated

Packing Group: Not regulated

Marine pollutant: Not Applicable

Special Provisions: None

Transport in bulk according to Annex II of MARPOL and the IBC Code: Not applicable

RID

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

Transport in bulk according to Annex II of MARPOL and the IBC Code: Not applicable

ADR

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

Transport in bulk according to Annex II of MARPOL and the IBC Code: Not applicable

ICAO (air)

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

Transport in bulk according to Annex II of MARPOL and the IBC Code: Not applicable

IATA

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

Transport in bulk according to Annex II of MARPOL and the IBC Code: Not applicable

DOT

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

TDG

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

MEX

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

ADN

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

Section 15: REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

European Union:

EU-REACH (1907/2006) – List of Registered Substances

Chemical name	EU - REACH (1907/2006) - List of Registered Substances
Tetramethylammonium chloride 75-57-0	Present

Take note of Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values.

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.

Take note of Directive 94/33/EC on the protection of young people at work: Not Applicable.

Take note of Directive 92/85/EC on the protection of pregnant and breastfeeding women at work: Not applicable.

International Inventories:

TSCA: Does not comply

DSL/NDSL: Does not comply

EINECS/ELINCS: Does not comply

ENCS: Does not comply

IECSC: Does not comply

KECL: Does not comply

PICCS: Does not comply

AICS: Does not comply

INSQ: Complies

US Federal Regulations:

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Acute health hazard: Yes

Chronic Health Hazard: No

Fire hazard: No

Sudden release of pressure hazard: No

Reactive Hazard: No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the

Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

This product does not contain any substances regulated by state right-to-know regulations.

U.S. EPA Label Information

EPA Pesticide Registration Number: Not Applicable.

15.2. Chemical safety assessment

For this substance a chemical safety assessment has not been carried out.

Australian Regulations

See section 8 for national exposure control parameters.

Classified as a hazardous substance in accordance with the criteria of Safe Work Australia - Globally Harmonised System (GHS).

Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP). Classified as a scheduled poison according to the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

Poison Schedule Number 6

Chemical name	Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP)	Poison Schedule Number
Tetramethylammonium chloride - 75-57-0	5: $\leq 20\%$ in preparations except when separately specified in these Schedules; Dialkyl or dialkoyl quaternary ammonium compounds where the alkyl or alkoyl groups are derived from tallow or hydrogenated tallow or similar chain length [C16/C18] source; or in preparations containing $\leq 5\%$ of such Quaternary ammonium compounds 6: except when separately specified in these Schedules; when included in Schedule 5; Dialkyl or Dialkoyl quaternary ammonium compounds where the Alkyl or Alkoyl groups are derived from Tallow or hydrogenated Tallow or similar chain length [C16/C18] sources; or in preparations containing $\leq 5\%$ of such Quaternary ammonium compounds	5 6

Section 16: OTHER INFORMATION

Further information

The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

It remains the user's own responsibility to make sure that the information is appropriate and complete for his specific use of this product. The user is also responsible for observing any laws and applicable guidelines.

1 IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

1.1 Component identifier

TAGMENTATION BUFFER

(Mixture, contains N,N-Dimethylformamide)

1.2 Relevant identified uses of the substance or mixture and uses advised against:

Reagent.

Uses advised against: No information available.

1.3 Details of the supplier of the safety data sheet:

Refer to Page 1

Section 2: HAZARDS IDENTIFICATION: TAGMENTATION BUFFER

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008: This mixture is classified as hazardous.

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classified as a hazardous substance in accordance with the criteria of Safe Work Australia - Globally Harmonised System (GHS).

Acute toxicity – Inhalation (Dusts/Mists)	Category 4 – (H332)
Serious eye damage/eye irritation	Category 2A - (H319)
Carcinogenicity	Category 1B – (H350)
Reproductive toxicity	Category 1B – (H360)

2.2. Label elements

Contains N,N-Dimethylformamide



Signal word:

Danger

Hazard statements:

H319 - Causes serious eye irritation

H332 - Harmful if inhaled

H350 - May cause cancer

H360 - May damage fertility or the unborn child

Precautionary Statements

EU (§28, 1272/2008), US and AUS Regulation:

P201 - Obtain special instructions before use

P202 - Do not handle until all safety precautions have been read and understood
 P261 - Avoid breathing dust/fume/gas/mist/vapours/spray
 P270 - Do not eat, drink or smoke when using this product
 P280 - Wear protective gloves/protective clothing/eye protection/face protection
 P264 - Wash face, hands and any exposed skin thoroughly after handling
 P272 - Contaminated work clothing should not be allowed out of the workplace
 P308 + P313 - IF exposed or concerned: Get medical advice/attention
 P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
 P313 - Get medical advice/attention
 P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 P337 + P313 - If eye irritation persists: Get medical advice/attention
 P405 - Store locked up
 P501 - Dispose of contents/ container to an approved waste disposal plant
Hazards not otherwise classified (HNOC): Not applicable
Unknown acute toxicity: 50% of the mixture consists of ingredient(s) of unknown toxicity

2.3. Other hazards

Other hazards: May be harmful in contact with skin.

Persistence and degradability: See Section 12 for additional Ecological Information.

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

Not Applicable.

3.2. Mixtures

This mixture is classified as hazardous according to regulation (EC) 1272/2008 [GHS].

Chemical name	EC No	CAS No	Weight - %	Classification according to Regulation (EC) No. 1272/2008
N,N-Dimethylformamide	200-679-5	68-12-2	30-60	Acute Tox. 4 (H312) Acute Tox. 4 (H332) Eye Irrit. 2 (H319) Carc. 1B (H350) Repr. 1B (H360)

Additional information: No information available

Section 4: FIRST AID MEASURES

4.1. Description of first aid measures

General advice: Treat symptomatically. If symptoms persist, call a doctor.

Inhalation: If symptomatic, move to fresh air. If symptoms persist, call a doctor.

Skin Contact: Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If skin irritation persists, call a doctor.

Eye contact: Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Get medical attention if irritation develops and persists. Keep eye wide open while rinsing.

Ingestion: Get medical advice/attention. Never give anything by mouth to an unconscious person. Do NOT induce vomiting.

Self-protection of the first aider: Use personal protective equipment as required. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

Most important symptoms and effects, both acute and delayed:

Symptoms: May damage fertility or the unborn child.

Indication of any immediate medical attention and special treatment needed:

Note to physicians: Treat symptomatically.

Section 5: FIRE FIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media: Water. Water spray (fog). Foam. Dry chemical. Carbon dioxide (CO₂).

Unsuitable extinguishing media: None known.

5.2. Special hazards arising from the substance or mixture

None known.

Hazardous combustion products: No information available.

Explosion data Sensitivity to Mechanical Impact: None.

Sensitivity to Static Discharge: None.

5.3. Advice for firefighters

In the event of fire, wear self-contained breathing apparatus MSHA/NIOSH (approved or equivalent). Use personal protective equipment as required.

Hazchem code: 2Y.

Section 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions: Use personal protective equipment as required. Keep people away from and upwind of spill/leak.

For emergency responders: Use personal protection recommended in Section 8. Keep unnecessary personnel away.

For non-emergency personnel: Use personal protective equipment as required.

6.2. Environmental precautions

Environmental precautions: Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses, or onto the ground. Do not flush into surface water or sanitary sewer system. Prevent product from entering drains.

6.3. Methods and material for containment and cleaning up

Methods for containment: Prevent further leakage or spillage if safe to do so. Dyke far ahead of liquid spill for later disposal.

Methods for cleaning up: Use personal protective equipment as required. Contain and collect spillage with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see Section 13).

Large spill: Prevent runoff from entering drains, sewers, or streams. Dyke far ahead of liquid spill for later disposal.

Prevention of secondary hazards: Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

See section 13 for more information. See section 8 for more information.

Section 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Advice on safe handling: Use personal protective equipment as required. Handle in accordance with good industrial hygiene and safety practice. Use with local exhaust ventilation. Do not breathe dust/fume/gas/mist/vapours/spray.

General Hygiene Considerations: Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions: Keep container tightly closed in a dry and well-ventilated place. Keep/store only in original container. Store away from incompatible materials.

Incompatible Materials: Strong oxidizing agents.

7.3. Specific end use(s)

Specific use(s): reagent.

Risk Management Methods (RMM): The information required is contained in this Material Safety Data Sheet.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Exposure Limits:

Chemical name: N,N-Dimethylformamide 68-12-2					
EU	UK	France	Spain	Germany	Italy
S* TWA: 5 ppm TWA: 15 mg/m ³ STEL: 10 ppm STEL: 30 mg/m ³	STEL: 10ppm STEL: 30 mg/m ³ TWA: 5 ppm TWA: 15 mg/m ³ Skin	TWA: 5ppm TWA: 15 mg/m ³ STEL: 30 mg/m ³ STEL: 10 ppm	S* STEL: 10 ppm STEL: 30 mg/m ³ TWA: 5 ppm TWA: 15 mg/m ³	TWA: 5ppm TWA: 15 mg/m ³ Ceiling / Peak: 10 ppm Ceiling / Peak: 30 mg/m ³ Skin	TWA: 5 ppm TWA: 15 mg/m ³ STEL: 10 ppm STEL: 30 mg/m ³ Skin
Portugal	Netherlands	Finland	Denmark	Austria	Switzerland
STEL: 10ppm STEL: 30 mg/m ³ TWA: 10 ppm TWA: 30 mg/m ³	Skin STEL: 30 mg/m ³ TWA: 15 mg/m ³	TWA: 5ppm TWA: 15mg/m ³ STEL: 10ppm STEL: 30mg/m ³ skin	TWA: 5ppm TWA: 15mg/m ³ skin	Skin STEL 10 ppm STEL 30 mg/m ³ TWA: 5 ppm TWA: 15 mg/m ³	Skin STEL: 10 ppm STEL: 30 mg/m ³ TWA: 5 ppm TWA: 15 mg/m ³
Poland	Norway	Ireland			
STEL: 30mg/m ³ TWA: 15mg/m ³	TWA: 5ppm TWA: 15 mg/m ³ Skin STEL: 10 ppm STEL: 30 mg/m ³	TWA: 5ppm TWA: 15 mg/m ³ STEL: 10 ppm STEL: 30 mg/m ³ Skin			

Chemical name	AGGIH TLV	OSHA PEL	NIOSH IDLH
N,N-Dimethylformamide 68-12-2	TWA: 10 ppm Skin	TWA: 10ppm TWA: 30 mg/m ³ (vacated) TWA: 10 ppm (vacated) TWA: 30 mg/m ³ (vacated) S* S*	IDLH: 500 ppm TWA: 10ppm TWA: 30 mg/m ³

NIOSH IDLH Immediately Dangerous to Life or Health

Other information: Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 96

Chemical name	Australia	New Zealand
N,N-Dimethylformamide 68-12-2	10ppm 30mg/m ³	TWA: 10ppm TWA: 30mg/m ³ Skin

Derived No Effect Level (DNEL): No information available.

Predicted No Effect Concentration (PNEC): No information available.

8.2. Exposure controls

Engineering Controls: Showers, Eyewash stations, Ventilation systems.

Personal protective equipment

Eye/face protection: Wear safety glasses with side shields (or goggles).

Hand Protection: Wear protective gloves and protective clothing.

Skin and body protection: Wear chemical-resistant gloves, footwear and protective clothing appropriate for risk of exposure.

Respiratory protection: In case of insufficient ventilation, wear suitable respiratory equipment.

Environmental exposure controls: Organisational measures to prevent /limit releases, dispersion and exposure. Discharge into the environment must be avoided. Local authorities should be advised if significant spillages cannot be contained.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties:

Physical state: Liquid

Appearance: Colourless liquid

Odour: Odourless

Odour threshold: No data

Colour: Colourless

Property	Values	Remarks
pH		No Information available
Melting point/freezing point		No information available
Boiling Point		No information available
Flash point		No information available
Evaporation Rate		No information available
Flammability		No information available
Vapour pressure		No information available
Vapour Density		No information available
Specific Gravity		No information available

Water Solubility	No information available
Solubilities	No information available
Partition coefficient	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Kinematic viscosity	No information available
Dynamic viscosity	No information available
Explosive properties	No unusual fire or explosion hazards noted
Oxidising properties	No information available

9.2. Other information

Softening point: No data available

Molecular weight: No data available

VOC Content (%): No data available

Density: No data available

Bulk density: No data available

Section 10: STABILITY AND REACTIVITY

10.1. Reactivity

The product is stable and non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under recommended storage conditions. Stable under normal conditions.

10.3. Possibility of hazardous reactions

Hazardous polymerisation: Hazardous polymerisation does not occur.

Possibility of Hazardous Reactions: None under normal processing.

Hazardous combustion products: No information available.

10.4. Conditions to avoid

Heat.

10.5. Incompatible materials

Strong oxidising agents.

10.6. Hazardous decomposition products

Thermal decomposition can lead to release of irritating and toxic gases and vapours.

Section 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Product Information: Reproductive toxicant.

Inhalation: Harmful by inhalation.

Eye contact: Causes serious eye damage.

Skin Contact: May be harmful in contact with skin.

Ingestion: May be harmful effects expected in amounts likely to be ingested by accident.

Acute toxicity

Unknown acute toxicity: 50% of the mixture consists of ingredients(s) of unknown toxicity.

Component information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
N,N-Dimethylformamide	= 2000 mg/kg (Rat) = 2800 mg/kg (Rat)	= 1100 mg/kg (Rat) > 3.2 g/kg (Rat)	-

Skin corrosion/irritation: May be harmful in contact with skin.

Serious eye damage/eye irritation: Risk of serious damage to eyes.

Sensitisation: Not classified.

Germ cell mutagenicity: Not classified.

Carcinogenicity: N,N-Dimethylformamide = IARC 2A

Reproductive toxicity: May damage fertility or the unborn child

Developmental Toxicity: Not classified.

Teratogenicity: Not classified.

STOT - single exposure: Causes damage to organs.

STOT - repeated exposure: Causes damage to organs through prolonged or repeated exposure.

Target organ effects: Central Vascular System (CVS), Eyes, kidney, liver, Respiratory system, Skin.

Symptoms: None known.

Aspiration hazard: Not classified.

Section 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Not considered to be harmful to aquatic life.

Contains 0% of components with unknown hazards to the aquatic environment.

Chemical name	Algae/aquatic plants	Fish	Crustacea	Classification according to Regulation (EC) No. 1272/2008 [CLP]
N,N-Dimethylformamide 68-12-2	96h- EC50(Desmodesmus subspicatus):500 mg/	96h- LC50(Oncorhynchus mykiss):9800 mg/L, 96h- LC50(Pimephales promelas):10410 mg/L, 96h- LC50(Lepomis macrochirus):6300 mg/	48h- EC50(Daphnia magna):7500 mg/L, 48h- EC50(Daphnia magna):6800 - 13900 mg/L, 48h- EC50(Daphnia magna):8485 mg/L	Acute Tox. 4 (H312) Acute Tox. 4 (H332) Eye Irrit. 2 (H319) Carc. 1B (H350) Repr. 1B (H360)

12.2. Persistence and degradability

Not a PBT or vPvB substance or mixture.

This mixture contains no substance considered to be persistent, bioaccumulating or toxic (PBT).

12.3. Bioaccumulative potential

Chemical Name	Partition coefficient
N,N-Dimethylformamide	-1.028

12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

Not a PBT or vPvB substance or mixture.

12.6. Other adverse effects

Endocrine Disruptor Information

Chemical name	EU - Endocrine Disruptors Candidate List	EU - Endocrine Disruptors - Evaluated Substances	Endocrine disrupting potential
N,N-Dimethylformamide	Group III Chemical	-	-

Section 13: DISPOSAL CONSIDERATIONS
13.1. Waste treatment methods
Waste from residues/unused products:

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging:

Do not re-use container. Disposal should be in accordance with applicable regional, national and local laws and regulations.

Waste codes / waste designations according to EWC / AVV:

Waste codes should be assigned by the user based on the application for which the product was used. Regional, national and local regulations apply.

Other Information:

Waste codes should be assigned by the user based on the application for which the product was used.

Disposal considerations:

Should not be released into the environment. This material and its container must be disposed of in a safe way.

Section 14: TRANSPORT INFORMATION
IMDG

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated

Packing Group: Not regulated

Marine pollutant: Not Applicable

Special Provisions: None

Transport in bulk according to Annex II of MARPOL and the IBC Code: Not Applicable

RID

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

Transport in bulk according to Annex II of MARPOL and the IBC Code: Not Applicable

ADR

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

Transport in bulk according to Annex II of MARPOL and the IBC Code: Not Applicable

ICAO (air)

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

Transport in bulk according to Annex II of MARPOL and the IBC Code: Not Applicable

IATA

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

Transport in bulk according to Annex II of MARPOL and the IBC Code: Not Applicable

DOT

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

TDG

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

MEX

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated
 Packing Group: Not regulated
 Environmental hazard: Not Applicable
 Special Provisions: None

ADN

UN/ID no: Not regulated
 Proper shipping name: Not regulated
 Hazard Class: Not regulated
 Packing Group: Not regulated
 Environmental hazard: Not Applicable
 Special Provisions: None

Section 15: REGULATORY INFORMATION
15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture
European Union:

Occupational Illnesses (R-463-3, France)

Chemical name	French RG number	Title
N,N-Dimethylformamide 68-12-2	RG 84	-

REACH

SVHC candidates

Chemical name	SVHC candidates
N,N-Dimethylformamide - 68-12-2	Reason for inclusion Toxic for reproduction, Article 57c (200-679-5)

EU -REACH (1907/2006) – List of registered Substances

Chemical name	EU - REACH (1907/2006) - List of Registered Substances
N,N-Dimethylformamide 68-12-2	Present

Take note of Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values:
 Not applicable

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work: Not applicable

Take note of Directive 94/33/EC on the protection of young people at work: Not applicable.

Take note of Directive 92/85/EC on the protection of pregnant and breastfeeding women at work: Not applicable

Australia

See section 8 for national exposure control parameters.

Classified as a hazardous substance in accordance with the criteria of Safe Work Australia - Globally Harmonised System (GHS)

Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP): Classified as a scheduled poison according to the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP)

Poison Schedule Number 6

Chemical name	Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP)	Poison Schedule Number
N,N-Dimethylformamide - 68-12-2	5: <=10 % in preparations except in silicone rubber mastic containing <=2% of Dimethylformamide Designated Solvent 6: except when included in Schedule 5; or in Silicon rubber mastic containing <=2% of Dimethylformamide SUSMP Appendix E SUSMP Appendix F - Safety Statements	5 6

Major hazard (accident/incident planning) regulation:

Verify that licence requirements are met

Hazardous chemical: Liquids that meet the criteria for Class 3 Packing Group II or III

Threshold quantity (T): 50 000

International Inventories:

TSCA: Does not comply

DSL/NDL: Complies

EINECS/ELINCS: Does not comply

ENCS: Does not comply

IECSC: Does not comply

KECL: Does not comply

PICCS: Complies

AICS: Does not comply

INSQ: Complies

US Federal Regulations:

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

Chemical name	SARA 313 – Threshold Values %
N,N-Dimethylformamide - 68-12-2	1.0

SARA 311/312 Hazard Categories

Acute health hazard: Yes

Chronic Health Hazard: Yes

Fire hazard: No

Sudden release of pressure hazard: No

Reactive Hazard: No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302).

Chemical name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
N,N-Dimethylformamide 68-12-2	100 lb	-	RQ 100 lb final RQ RQ 45.4 kg final RQ

US State Regulations**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
N,N-Dimethylformamide 68-12-2	X	X	X
Water 7732-18-5	-	-	X

U.S. EPA Label Information

EPA Pesticide Registration Number: Not Applicable.

15.2. Chemical safety assessment

For this substance a chemical safety assessment has not been carried out.

Section 16: OTHER INFORMATIONFurther information

The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

It remains the user's own responsibility to make sure that the information is appropriate and complete for his specific use of this product. The user is also responsible for observing any laws and applicable guidelines.

1 IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING
1.1 Component identifier

HYBRIDISATION BUFFER 1
 (Mixture – Contains Formamide)

1.2 Relevant identified uses of the substance or mixture and uses advised against:

Reagent.

Uses advised against: No information available.

1.3 Details of the supplier of the safety data sheet:

Refer to Page 1

Section 2: HAZARDS IDENTIFICATION: HYBRIDISATION BUFFER 1
2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008: This mixture is classified as hazardous.

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classified as a hazardous substance in accordance with the criteria of Safe Work Australia - Globally Harmonised System (GHS).

Carcinogenicity	Category 2 – (H351)
Reproductive toxicity	Category 1B – (H360)
Specific target organ toxicity (repeated exposure)	Category 2 - (H373)

Classification according to Directive 67/548/EEC or 1999/45/EC: The preparation is classified as dangerous in accordance with Directive 1999/45/EC.

2.2. Label elements

Contains Formamide


Signal word:

Danger

Hazard statements:

H351 – Suspected of causing cancer

H360 - May damage fertility or the unborn child

H373 - May cause damage to organs through prolonged or repeated exposure

Precautionary Statements**EU (§28, 1272/2008), US and AUS Regulation:**

P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood
P261 - Avoid breathing dust/fume/gas/mist/vapours/spray
P270 - Do not eat, drink or smoke when using this product
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P264 - Wash face, hands and any exposed skin thoroughly after handling
P272 - Contaminated work clothing should not be allowed out of the workplace
P308 + P313 - IF exposed or concerned: Get medical advice/attention
P405 - Store locked up
P501 - Dispose of contents/ container to an approved waste disposal plan

2.3. Other hazards

Other hazards: None known.

Hazards not otherwise classified (HNOC): Not applicable

Other Information Unknown acute toxicity 72.1 % of the mixture consists of ingredient(s) of unknown toxicity.

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS**3.1. Substances**

Not Applicable.

3.2. Mixtures

This mixture is classified as hazardous according to regulation (EC) 1272/2008 [CLP].

The preparation is classified as dangerous in accordance with Directive 1999/45/EC.

This material is considered hazardous by OSHA Hazard Communication Standard (29 CFR 1910.1200).

Chemical name	EC No	CAS No	Weight - %	Classification according to Regulation (EC) No. 1272/2008	Classification according to Directive 67/548/EEC or 1999/45/EC
Formamide	200-842-0	75-12-7	10-30	Repr. 1B (H360D)	Repr.Cat.2; R61

Additional information: No information available.

Section 4: FIRST AID MEASURES**4.1. Description of first aid measures**

General advice: Treat symptomatically. If symptoms persist, call a doctor.

Inhalation: If symptomatic, move to fresh air. If symptoms persist, call a doctor.

Skin Contact: Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If skin irritation persists, call a doctor.

Eye contact: Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Get medical attention if irritation develops and persists.

Ingestion: Get medical advice/attention. Never give anything by mouth to an unconscious person. Do NOT induce vomiting.

Self-protection of the first aider: Use personal protective equipment as required. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

Most important symptoms and effects, both acute and delayed:

Symptoms: May damage fertility or the unborn child. Persons with impaired reproductive function may be more susceptible to the effects of this material.

Indication of any immediate medical attention and special treatment needed:

Note to physicians: Treat symptomatically.

Section 5: FIRE FIGHTING MEASURES**5.1. Extinguishing media**

Suitable extinguishing media: Water. Water spray (fog). Foam. Dry chemical. Carbon dioxide (CO₂).

Unsuitable extinguishing media: None known.

5.2. Special hazards arising from the substance or mixture

None known.

Hazardous combustion products: Contains oxides. Ammonia. Nitrogen oxides. Hydrogen cyanide.

5.3. Advice for firefighters

In the event of fire, wear self-contained breathing apparatus MSHA/NIOSH (approved or equivalent). Use personal protective equipment as required.

Section 6: ACCIDENTAL RELEASE MEASURES**6.1. Personal precautions, protective equipment and emergency procedures**

Personal precautions: Use personal protective equipment as required. Keep people away from and upwind of spill/leak.

For emergency responders: Use personal protection recommended in Section 8. Keep unnecessary personnel away.

For non-emergency personnel: Use personal protective equipment as required.

6.2. Environmental precautions

Environmental precautions: Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses, or onto the ground. Do not flush into surface water or sanitary sewer system. Prevent product from entering drains.

6.3. Methods and material for containment and cleaning up

Methods for containment: Prevent further leakage or spillage if safe to do so. Dyke far ahead of liquid spill for later disposal.

Methods for cleaning up: Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container. Large spill. Flush area with water. Prevent runoff from entering drains, sewers, or streams. Dyke far ahead of liquid spill for later disposal.

Prevention of secondary hazards: Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

See section 13 for more information. See section 8 for more information.

Section 7: HANDLING AND STORAGE
7.1. Precautions for safe handling

Advice on safe handling: Use personal protective equipment as required. Handle in accordance with good industrial hygiene and safety practice.

General Hygiene Considerations: When using do not eat, drink or smoke. Wash hands thoroughly after handling. Regular cleaning of equipment, work area and clothing is recommended.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions: Keep container tightly closed in a dry and well-ventilated place. Keep/store only in original container. Store away from incompatible materials.

Incompatible materials: Strong oxidizing agents.

7.3. Specific end use(s)

Specific use(s): reagent.

Risk Management Methods (RMM): The information required is contained in this Material Safety Data Sheet.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION
8.1. Control parameters

Exposure Limits:

Chemical name: Formamide 75-12-7					
EU	UK	France	Spain	Germany	Italy
-	STEL: 30ppm STEL: 56 mg/m ³ TWA: 20 ppm TWA: 37 mg/m ³	TWA: 20ppm TWA: 30 mg/m ³	S* TWA: 10 ppm TWA: 19 mg/m ³	Skin	-
Portugal	Netherlands	Finland	Denmark	Austria	Switzerland
TWA: 10 ppm	-	TWA: 10ppm TWA: 19mg/m ³ STEL: 20ppm STEL: 37mg/m ³ skin	TWA: 10ppm TWA: 18mg/m ³ skin	Skin STEL: 18 ppm STEL: 32 mg/m ³ TWA: 9 ppm TWA: 16 mg/m ³	Skin TWA: 10 ppm TWA: 18 mg/m ³
Poland	Norway	Ireland			
TWA: 23mg/m ³	TWA: 10ppm TWA: 18 mg/m ³ Skin STEL: 15 ppm STEL: 27 mg/m ³	TWA: 10ppm TWA: 18 mg/m ³ STEL: 30 ppm STEL: 54 mg/m ³			

Chemical name	AGGIH TLV	OSHA PEL	NIOSH IDLH
Formamide 75-12-7	TWA: 10 ppm Skin	(vacated) TWA: 20ppm (vacated) TWA: 30mg/m ³ (vacated) STEL: 30 ppm (vacated) STEL: 45 mg/m ³	TWA: 10ppm TWA: 15 mg/m ³

NIOSH IDLH Immediately Dangerous to Life or Health

Other information: Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 96

Chemical name	Australia
Formamide 75-12-7	10 ppm 18 mg/m ³

Derived No Effect Level (DNEL): No information available.

Predicted No Effect Concentration (PNEC): No information available.

8.2. Exposure controls

Engineering Controls: Showers, Eyewash stations, Ventilation systems.

Personal protective equipment

Eye/face protection: Wear safety glasses with side shields (or goggles).

Hand Protection: Wear protective gloves and protective clothing.

Skin and body protection: Wear chemical-resistant gloves, footwear and protective clothing appropriate for risk of exposure.

Respiratory protection: In case of insufficient ventilation, wear suitable respiratory equipment.

Environmental exposure controls: Local authorities should be advised if significant spillages cannot be contained.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties:

Physical state: Liquid

Appearance: light viscous

Odour: Odourless

Odour threshold: No data

Colour: Colourless

Property	Values	Remarks
pH	8	
Melting point/freezing point		No information available
Boiling Point		No information available
Flash point		No information available
Evaporation Rate		No information available
Flammability		No information available
Vapour pressure		No information available
Vapour Density		No information available
Specific Gravity		No information available
Water Solubility		No information available
Solubilities		No information available
Partition coefficient		No information available
Autoignition temperature		No information available
Decomposition temperature		No information available
Kinematic viscosity		No information available
Dynamic viscosity		No information available
Explosive properties		No unusual fire or explosion hazards noted
Oxidising properties		No information available

9.2. Other information**Softening point:** No data available**Molecular weight:** No data available**VOC Content (%):** No data available**Density:** 1.09 g/mL**Bulk density:** No data available**Particle Size:** No information available**Particle Size Distribution:** No information available**Section 10: STABILITY AND REACTIVITY****10.1. Reactivity**

The product is stable and non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under recommended storage conditions. Stable under normal conditions.

10.3. Possibility of hazardous reactions

Hazardous polymerization: Hazardous polymerization does not occur.

Possibility of Hazardous Reactions: None under normal processing.

Hazardous combustion products: No information available.

10.4. Conditions to avoid

None known.

10.5. Incompatible materials

Strong oxidizing agents.

10.6. Hazardous decomposition products

None known.

Section 11: TOXICOLOGICAL INFORMATION**11.1. Information on toxicological effects**

Product Information: Reproductive toxicant.

Inhalation: Under normal conditions of intended use, this material is not expected to be an inhalation hazard.

Eye contact: Direct contact with eyes may cause temporary irritation.

Skin Contact: Prolonged contact may cause redness and irritation.

Ingestion: May be harmful effects expected in amounts likely to be ingested by accident.

Acute toxicity:

Unknown acute toxicity: 72.1% of the mixture consists of ingredients(s) of unknown toxicity.

Component information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Formamide	= 5577 mg/kg (Rat) > 5000 mg/kg (Rat)	-	>3900 ppm (Rat) 6h

Skin corrosion/irritation: Not classified.

Serious eye damage/eye irritation: Not classified.

Sensitisation: Not classified.

Germ cell mutagenicity: Not classified.

Carcinogenicity: Suspected of causing cancer

Reproductive toxicity: May damage fertility or the unborn child.

Developmental Toxicity: Not classified.

Teratogenicity: Not classified.

STOT – single exposure: Not classified.

STOT – repeated exposure: May cause damage to organs through prolonged or repeated exposure

Target organ effects: May cause damage to organs through prolonged or repeated exposure.

Symptoms: None known.

Aspiration hazard: Not classified.

Section 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Not considered to be harmful to aquatic life.

Contains 47.5% of components with unknown hazards to the aquatic environment.

Chemical name	Algae/aquatic plants	Fish	Crustacea
Formamide	500 mg/L: EC50 72 h Desmodemus subspicatus 500 mg/L: EC50 96 h Desmodemus subspicatus	4600 – 9300 mg/L: LC50 96 h Leuciscus idus static 9135mg/L: LC50 96 h Brachydanio rerio static	500 mg/L: EC50 48 h Daphnia magna
Sodium chloride	-	4747 - 7824 mg/L: LC50 96 h Oncorhynchus mykiss flow-through 5560 - 6080 mg/L: LC50 96 h Lepomis macrochirus flow-through 6020 - 7070 mg/L: LC50 96 h Pimephales promelas static 6420 6700 mg/L: LC50 96 h Pimephales promelas static 12946 mg/L: LC50 96 h Lepomis macrochirus static 7050 mg/L: LC50 96 h Pimephales promelas semi-stati	340.7 - 469.2 mg/L: EC50 48 h Daphnia magna Static 1000 mg/L: EC50 48 h Daphnia magna

12.2. Persistence and degradability

Not a PBT or vPvB substance or mixture.

This mixture contains no substance considered to be persistent, bioaccumulating or toxic (PBT)

12.3. Bioaccumulative potential

Chemical Name	Partition coefficient
Formamide	-0.82

12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

Not a PBT or vPvB substance or mixture.

12.6. Other adverse effects

No data available

Section 13: DISPOSAL CONSIDERATIONS**13.1. Waste treatment methods****Waste from residues/unused products:**

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging:

Do not re-use container. Disposal should be in accordance with applicable regional, national and local laws and regulations.

Waste codes / waste designations according to EWC / AVV:

Waste codes should be assigned by the user based on the application for which the product was used. Regional, national and local regulations apply.

Other Information:

Waste codes should be assigned by the user based on the application for which the product was used.

Disposal considerations:

Should not be released into the environment.

Section 14: TRANSPORT INFORMATION**IMDG**

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated

Packing Group: Not regulated

Marine pollutant: Not applicable

Special Provisions: None

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: Not applicable

RID

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: Not applicable

ADR

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: Not applicable

ICAO (air)

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: Not applicable

IATA

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: Not applicable

DOT

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

TDG

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

MEX

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

ADN

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

Section 15: REGULATORY INFORMATION**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****European Union:**

Formamide (75-12-7)

SVHC candidates: Reason for inclusion Toxic for reproduction, Article 57c (200-842-0)

Chemical name	SVHC candidates
Formamide – 75-12-7	Reason for inclusion Toxic for reproduction, Article 57c (200-842-0)

Take note of Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values:
 Not applicable.

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work: Not applicable.

Take note of Directive 94/33/EC on the protection of young people at work: Not applicable.

Australia

See section 8 for national exposure control parameters.

Classified as a hazardous substance in accordance with the criteria of Safe Work Australia - Globally Harmonised System (GHS).

Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP): No poisons schedule number allocated.

National pollutant inventory: Subject to reporting requirement.

Chemical name	National pollutant inventory
Formamide 75-12-7	20 MW Threshold category 2b total 60000 MWH Threshold category 2b total 1 tonne/h Threshold category 2a total 25 tonne/yr Threshold category 1a total 400 tonne/yr Threshold category 2a total 2000 tonne/yr Threshold category 2b total

International Inventories:

TSCA: Does not comply

DSL/NDSL: Does not comply

EINECS/ELINCS: Does not comply

ENCS: Does not comply

IECSC: Does not comply

KECL: Does not comply

PICCS: Does not comply

AICS: Does not comply

INSQ: Does not comply

US Federal Regulations:

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Acute health hazard: No

Chronic Health Hazard: Yes

Fire hazard: No

Sudden release of pressure hazard: No

Reactive Hazard: No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

US State Regulations**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Formamide 75-12-7	X	X	X

U.S. EPA Label Information

EPA Pesticide Registration Number: Not Applicable.

15.2. Chemical safety assessment

For this substance a chemical safety assessment has not been carried out.

Section 16: OTHER INFORMATIONFurther information

The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

It remains the user's own responsibility to make sure that the information is appropriate and complete for his specific use of this product. The user is also responsible for observing any laws and applicable guidelines.

1 IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

1.1 Component identifier

2N NaOH

(Mixture containing Sodium Hydroxide, UN/ID no: UN1824)

1.2 Relevant identified uses of the substance or mixture and uses advised against:

Reagent.

Uses advised against: No information available.

1.3 Details of the supplier of the safety data sheet:

Refer to Page 1

Section 2: HAZARDS IDENTIFICATION: 2N NaOH

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008: This mixture is classified as hazardous.

OSHA Regulatory Status: This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classified as a hazardous substance in accordance with the criteria of Safe Work Australia - Globally Harmonised System (GHS).

Skin corrosion/irritation	Category 1 Sub-category A – (H314)
Serious eye damage/eye irritation	Category 1 – (H318)

2.2. Label elements

Contains Sodium Hydroxide



Signal word:

Danger

Hazard statements:

H314 - Causes severe skin burns and eye damage

H318 - Causes serious eye damage

Precautionary Statements

EU (§28, 1272/2008), US and AUS Regulation:

P260 - Do not breathe dust/fume/gas/mist/vapours/spray

P264 - Wash face, hands and any exposed skin thoroughly after handling

P280 - Wear protective gloves/protective clothing/eye protection/face protection

P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting

P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower

P363 - Wash contaminated clothing before reuse

P310 - Immediately call a POISON CENTER or doctor

P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a POISON CENTER or doctor.

P405 - Store locked up

P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable

Hazards not otherwise classified (HNOC): Not applicable

2.3. Other hazards

Other hazards: None known.

Persistence and degradability: See section 12 for additional Ecological Information.

Unknown acute toxicity 8 % of the mixture consists of ingredient(s) of unknown toxicity.

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

Not Applicable.

3.2. Mixtures

This mixture is classified as hazardous according to regulation (EC) 1272/2008 [CLP].

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Chemical name	EC No	CAS No	Weight - %	Classification according to Regulation (EC) No. 1272/2008
Sodium hydroxide	215-185-5	1310-73-2	5-10	Skin Corr. 1A (H314) Aquatic Acute 3 (H402) Aquatic Chronic 3 (H412)

Additional information: No information available.

Section 4: FIRST AID MEASURES

4.1. Description of first aid measures

General advice: Immediate medical attention is required.

Inhalation: Remove to fresh air. Call a doctor or poison control centre immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

Skin Contact: Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Immediate medical attention is required.

Eye contact: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Immediate medical attention is required.

Ingestion: Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Immediate medical attention is required. Drink plenty of water. Remove from exposure, lie down. Clean mouth with water and drink afterwards plenty of water. Call a doctor or poison control centre immediately.

Self-protection of the first aider: Use personal protective equipment as required. Avoid contact with skin, eyes or clothing.

Most important symptoms and effects, both acute and delayed:

Symptoms: Causes severe skin burns and eye damage. Redness. blistering.

Indication of any immediate medical attention and special treatment needed:

Note to physicians: Product is a corrosive material. Use of gastric lavage or emesis is contra-indicated.

Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes.

Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure. Treat symptomatically.

Section 5: FIRE FIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media: Water. Water spray (fog). Foam. Dry chemical. Carbon dioxide (CO₂).

Unsuitable extinguishing media: None known.

5.2. Special hazards arising from the substance or mixture

The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating and toxic gases and vapours. In the event of fire and/or explosion do not breathe fumes.

Hazardous combustion products: Contains oxides.

Sensitivity to Mechanical Impact: None.

Sensitivity to Static Discharge: None.

5.3. Advice for firefighters

In the event of fire, wear self-contained breathing apparatus MSHA/NIOSH (approved or equivalent). Use personal protective equipment as required.

Section 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions: Use personal protective equipment as required. Evacuate personnel to safe areas. Avoid contact with skin, eyes or clothing. Keep people away from and upwind of spill/leak.

For emergency responders: Use personal protection recommended in Section 8. Keep unnecessary personnel away.

For non-emergency personnel: Use personal protective equipment as required.

6.2. Environmental precautions

Environmental precautions: Do not allow into any sewer, on the ground or into any body of water. Should not be released into the environment. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. See Section 12 for additional Ecological Information.

6.3. Methods and material for containment and cleaning up

Methods for containment: Prevent further leakage or spillage if safe to do so. Dyke far ahead of liquid spill for later disposal.

Methods for cleaning up: Dyke far ahead of liquid spill for later disposal Soak up with inert absorbent material Take up mechanically, placing in appropriate containers for disposal Clean contaminated surface thoroughly Prevent product from entering drains Dam up After cleaning, flush away traces with water.

Prevention of secondary hazards: Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

See section 13 for more information. See section 8 for more information.

Section 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Advice on safe handling: Avoid contact with skin, eyes or clothing. Ensure adequate ventilation, especially in confined areas. Use personal protective equipment as required. In case of insufficient ventilation, wear suitable respiratory equipment. Use only with adequate ventilation and in closed systems.

General Hygiene Considerations: When using do not eat, drink or smoke. Wash contaminated clothing before reuse. Avoid contact with skin, eyes or clothing. Keep away from food, drink and animal feeding stuffs. Wear suitable gloves and eye/face protection. Take off all contaminated clothing and wash it before re-use. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions: Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep in properly labelled containers.

Incompatible materials: Strong oxidizing agents. Acids. Incompatible with strong acids and bases. Incompatible with oxidizing agents.

7.3. Specific end use(s)

Specific use(s): reagent.

Risk Management Methods (RMM): The information required is contained in this Material Safety Data Sheet.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Exposure Limits:

Chemical name: Sodium hydroxide 1310-73-2					
EU	UK	France	Spain	Germany	Italy
-	STEL: 2mg/m ³	TWA: 2 mg/m ³	STEL: 2 mg/m ³	-	-
Portugal	Netherlands	Finland	Denmark	Austria	Switzerland
Ceiling: 2 mg/m ³	-	STEL: 2mg/m ³ Ceiling: 2mg/m ³	Ceiling: 2mg/m ³	STEL: 4 mg/m ³ TWA: 2 mg/m ³	STEL: 2 mg/m ³ TWA: 2 mg/m ³
Poland	Norway	Ireland			
STEL: 1 mg/m ³ TWA: 0.5 mg/m ³	Ceiling: 2 mg/m ³	STEL: 2 mg/m ³			

Chemical name	AGGIH TLV	OSHA PEL	NIOSH IDLH
Sodium hydroxide 1310-73-2	Ceiling: 2 mg/m ³	TWA: 2 mg/m ³ (vacated) Ceiling: 2 mg/m ³	IDLH: 10 mg/m ³ Ceiling: 2 mg/m ³

NIOSH IDLH Immediately Dangerous to Life or Health

Other information: Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

Chemical name	Australia
Sodium hydroxide	2 mg/m ³ Peak

Derived No Effect Level (DNEL): No information available.

Predicted No Effect Concentration (PNEC): No information available.

8.2. Exposure controls

Engineering Controls: Showers, Eyewash stations, Ventilation systems.

Personal protective equipment

Eye/face protection: Wear safety glasses with side shields (or goggles).

Hand Protection: Wear protective gloves and protective clothing.

Skin and body protection: Wear chemical-resistant gloves, footwear and protective clothing appropriate for risk of exposure.

Respiratory protection: If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

Environmental exposure controls: Organisational measures to prevent /limit releases, dispersion and exposure. Discharge into the environment must be avoided. Local authorities should be advised if significant spillages cannot be contained.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties:

Physical state: Liquid

Appearance: Colourless liquid

Odour: Odourless

Odour threshold: No data

Colour: Colourless

Property	Values	Remarks
pH		No information available
Melting point/freezing point		No information available
Boiling Point		No information available
Flash point		No information available
Evaporation Rate		No information available
Flammability		No information available
Vapour pressure		No information available
Vapour Density		No information available
Specific Gravity		No information available
Water Solubility		No information available
Solubilities		No information available
Partition coefficient		No information available
Autoignition temperature		No information available
Decomposition temperature		No information available
Kinematic viscosity		No information available

Dynamic viscosity

No information available

Explosive properties

No information available

Oxidising properties

No information available

9.2. Other information**Softening point:** No data available**Molecular weight:** No data available**VOC Content (%):** No data available**Density:** No data available**Bulk density:** No data available**Section 10: STABILITY AND REACTIVITY****10.1. Reactivity**

The product is stable and non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under recommended storage conditions. Stable under normal conditions.

10.3. Possibility of hazardous reactions**Hazardous polymerisation:** Hazardous polymerisation does not occur.**Possibility of Hazardous Reactions:** None under normal processing.**10.4. Conditions to avoid**

Exposure to air or moisture over prolonged periods.

10.5. Incompatible materials

Strong oxidising agents. Acids. Incompatible with strong acids and bases. Incompatible with oxidising agents.

10.6. Hazardous decomposition products

Thermal decomposition can lead to release of irritating and toxic gases and vapours.

Section 11: TOXICOLOGICAL INFORMATION**11.1. Information on toxicological effects****Product Information:****Inhalation:** May be harmful if inhaled.**Eye contact:** Causes serious eye damage.**Skin Contact:** Harmful in contact with skin. Causes burns.**Ingestion:** May be harmful if swallowed.**Acute toxicity:****Unknown acute toxicity:** 8% of the mixture consists of ingredients(s) of unknown toxicity.**Component information**

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Sodium hydroxide	-	= 1350 mg/kg (Rabbit)	-

Skin corrosion/irritation: Causes severe burns.**Serious eye damage/eye irritation:** Risk of serious damage to eyes.

Sensitisation: Not classified.

Germ cell mutagenicity: Not classified.

Carcinogenicity: Not classified as a human carcinogen.

Reproductive toxicity: Not classified.

Developmental Toxicity: Not classified.

Teratogenicity: Not classified.

STOT - single exposure: May cause damage to organs.

STOT - repeated exposure: Not classified.

Chronic toxicity: Chronic exposure to corrosive fumes/gases may cause erosion of the teeth followed by jaw necrosis. Bronchial irritation with chronic cough and frequent attacks of pneumonia are common. Gastrointestinal disturbances may also be seen. Avoid repeated exposure. Possible risk of irreversible effects. May cause adverse effects on the bone marrow and blood-forming system.

Target organ effects: Eyes, Respiratory system, Skin.

Symptoms: Causes severe skin burns and eye damage. Redness. blistering.

Aspiration hazard: Not classified.

Section 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Product Aquatic Toxicity Status; Not considered to be harmful to aquatic life.

Contains 0% of components with unknown hazards to the aquatic environment.

Chemical name	Algae/aquatic plants	Fish	Crustacea	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Sodium hydroxide 1310-73-2	-	45.4 mg/L: LC50 96 h Oncorhynchus mykiss static	-	Skin Corr. 1A (H314) Aquatic Acute 3 (H402) Aquatic Chronic 3 (H412)

12.2. Persistence and degradability

Not a PBT or vPvB substance or mixture.

This mixture contains no substance considered to be persistent, bioaccumulating or toxic (PBT).

12.3. Bioaccumulative potential

No data available.

12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

Not a PBT or vPvB substance or mixture.

12.6. Other adverse effects

No data available.

Section 13: DISPOSAL CONSIDERATIONS**13.1. Waste treatment methods****Waste from residues/unused products:**

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging:

Do not re-use container. Disposal should be in accordance with applicable regional, national and local laws and regulations.

Waste codes / waste designations according to EWC / AVV:

Waste codes should be assigned by the user based on the application for which the product was used. Regional, national and local regulations apply.

US EPA Waste Number: D002

Other Information:

Waste codes should be assigned by the user based on the application for which the product was used.

Disposal considerations:

Should not be released into the environment This material and its container must be disposed of in a safe way.

Section 14: TRANSPORT INFORMATION**IMDG**

UN/ID no: UN1824

Proper shipping name: SODIUM HYDROXIDE SOLUTION

Transport hazard class(es): 8

Packing Group: II

Marine pollutant: Not Applicable

Special Provisions: None

RID

UN/ID no: UN1824

Proper shipping name: SODIUM HYDROXIDE SOLUTION

Transport Hazard Class: 8

Packing Group: II

Environmental hazard: Not Applicable

Special Provisions: None

ADR

UN/ID no: UN1824

Proper shipping name: SODIUM HYDROXIDE SOLUTION

Transport Hazard Class: 8

Packing Group: II

Environmental hazard: Not Applicable

Special Provisions: None

ICAO (air)

UN/ID no: UN1824

Proper shipping name: SODIUM HYDROXIDE SOLUTION

Transport Hazard Class: 8

Packing Group: II

Environmental hazard: Not Applicable

Special Provisions: None

IATA

UN/ID no: UN1824

Proper shipping name: SODIUM HYDROXIDE SOLUTION

Transport Hazard Class: 8

Packing Group: II

Environmental hazard: Not Applicable

Special Provisions: None

DOT

UN/ID no: UN1824

Proper shipping name: SODIUM HYDROXIDE SOLUTION

Transport Hazard Class: 8

Packing Group: II

Environmental hazard: Not Applicable

Special Provisions: None

TDG

UN/ID no: UN1824

Proper shipping name: SODIUM HYDROXIDE SOLUTION

Transport Hazard Class: 8

Packing Group: II

Environmental hazard: Not Applicable

Special Provisions: None

MEX

UN/ID no: UN1824

Proper shipping name: SODIUM HYDROXIDE SOLUTION

Transport Hazard Class: 8

Packing Group: II

Environmental hazard: Not Applicable

Special Provisions: None

ADN

UN/ID no: UN1824

Proper shipping name: SODIUM HYDROXIDE SOLUTION

Transport Hazard Class: 8

Packing Group: II

Environmental hazard: Not Applicable

Special Provisions: None

ADG

UN/ID no: UN1824

Proper shipping name: SODIUM HYDROXIDE SOLUTION (Sodium hydroxide)

Hazard Class: 8

Packing Group: II

Description UN1824, SODIUM HYDROXIDE SOLUTION (Sodium hydroxide), 8, II

Section 15: REGULATORY INFORMATION**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****European Union:**

Chemical name	EU – REACH (1907/2006) – List of Registered Substances
Sodium hydroxide 1310-73-2	Present

Take note of Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values:
 Not applicable.

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work: Not applicable.

Take note of Directive 94/33/EC on the protection of young people at work: Not applicable.

Take note of Directive 92/85/EC on the protection of pregnant and breastfeeding women at work Not applicable.

Australia

See section 8 for national exposure control parameters.

Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) Classified as a scheduled poison according to the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

Poison Schedule Number: 6

Chemical name	Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP)	Poison Schedule Number
Sodium hydroxide - 1310-73-2	5: ≤5 % except its salts and derivatives; in preparations being: solid preparations the PH of which in a 10 g/L aqueous solution is >11.5; liquid or semi-solid preparations the PH of which is >11.5 except in food additive preparations for domestic use 6: except its salts and derivatives; except: [a] when included in Schedule 5 or Schedule 10, [b] in preparations containing ≤5% of Sodium hydroxide being: [i] solid preparations, the pH of which in a 10 g/L aqueous solution is ≤11.5, or [ii] liquid or semi-solid preparations the pH of which is ≤11.5 SUSMP Appendix E SUSMP Appendix F - Safety Statements SUSMP Appendix F - Warning Statements	5 6

International Inventories:

TSCA: Complies

DSL/NDSL: Complies

EINECS/ELINCS: Complies

ENCS: Does not comply

IECSC: Complies

KECL: Complies

PICCS: Complies

AICS: Complies

INSQ: Complies

US Federal Regulations:

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Acute health hazard: Yes

Chronic Health Hazard: Yes

Fire hazard: No

Sudden release of pressure hazard: No

Reactive Hazard: No

CWA (Clean Water Act)

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical name	CWA – Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Sodium hydroxide 1310-73-2	1000 lb	-	-	X

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302).

Chemical name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Sodium hydroxide 1310-73-2	1000 lb	-	RQ 1000 lb final RQ RQ 454 kg final RQ

US State Regulations
California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Sodium hydroxide 1310-73-2	X	X	X
Water 7732-18-5	-	-	X

U.S. EPA Label Information

EPA Pesticide Registration Number: Not Applicable.

15.2. Chemical safety assessment

For this substance a chemical safety assessment has not been carried out.

Section 16: OTHER INFORMATION
Further information

The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

It remains the user's own responsibility to make sure that the information is appropriate and complete for his specific use of this product. The user is also responsible for observing any laws and applicable guidelines.

1 IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING
1.1 Component identifier

Capture Beads
 (Mixture contains Formamide)

1.2 Relevant identified uses of the substance or mixture and uses advised against:

Reagent
 Uses advised against: No information available

1.3 Details of the supplier of the safety data sheet:

Refer to Page 1

Section 2: HAZARDS IDENTIFICATION: CAPTURE BEADS
2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008: This mixture is classified as hazardous.
 OSHA Regulatory Status: This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).
 Classified as a hazardous substance in accordance with the criteria of Safe Work Australia - Globally Harmonised System (GHS).

Carcinogenicity	Category 2 – (H351)
Reproductive toxicity	Category 1B – (H360)
Specific target organ toxicity – repeated exposure	Category 2 - (H373)

2.2. Label elements

Contains Formamide


Signal word:

Danger

Hazard statements:

H351 – Suspected of causing cancer
 H360 - May damage fertility or the unborn child
 H373 - May cause damage to organs through prolonged or repeated exposure

Precautionary Statements
EU (§28, 1272/2008), US and AUS Regulation:

P201 - Obtain special instructions before use

P202 - Do not handle until all safety precautions have been read and understood
P260 - Do not breathe dust/fume/gas/mist/vapours/spray
P270 - Do not eat, drink or smoke when using this product
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P264 - Wash face, hands and any exposed skin thoroughly after handling
P272 - Contaminated work clothing should not be allowed out of the workplace
P308 + P313 - IF exposed or concerned: Get medical advice/attention
P405 - Store locked up
P501 - Dispose of contents/ container to an approved waste disposal plant

Hazards not otherwise classified (HNCO): Not applicable

2.3. Other hazards

Other hazards: None known.

Persistence and degradability: See section 12 for additional Ecological Information

Unknown acute toxicity: 27.7% of the mixture consists of ingredient(s) of unknown toxicity

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

Not Applicable.

3.2. Mixtures

This mixture is classified as hazardous according to regulation (EC) 1272/2008 [CLP].

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Chemical name	EC No	CAS No	Weight - %	Classification according to Regulation (EC) No. 1272/2008
Formamide	200-842-0	75-12-7	10-30	Carc. 2 (H351) Repr. 1B (H360) STOT RE 2 (H373)
Sodium azide	247-852-1	26628-22-8	<0.1	Acute Tox. 2 (H300) (EUH032) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)

Additional information: No information available

Section 4: FIRST AID MEASURES

4.1. Description of first aid measures

General advice: Treat symptomatically.

Inhalation: If symptomatic, move to fresh air. Get medical attention if symptoms persist.

Skin Contact: Wash skin with soap and water. Get medical attention if irritation develops and persists.

Eye contact: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

Ingestion: Get medical advice/attention.

Self-protection of the first aider: Use personal protective equipment as required.

Most important symptoms and effects, both acute and delayed:

Symptoms: May damage fertility or the unborn child. Persons with impaired reproductive function may be more susceptible to the effects of this material.

Indication of any immediate medical attention and special treatment needed:

Note to physicians: Treat symptomatically.

Section 5: FIRE FIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media: Water. Water spray (fog). Foam. Dry chemical. Carbon dioxide (CO₂).

Unsuitable extinguishing media: None known.

5.2. Special hazards arising from the substance or mixture

None known.

Hazardous combustion products: No information available.

5.3. Advice for firefighters

In the event of fire, wear self-contained breathing apparatus MSHA/NIOSH (approved or equivalent). Use personal protective equipment as required.

Section 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions: Use personal protective equipment as required. Evacuate personnel to safe areas. Avoid contact with skin, eyes or clothing. Keep people away from and upwind of spill/leak.

For emergency responders: Use personal protection recommended in Section 8. Keep unnecessary personnel away.

For non-emergency personnel: Use personal protective equipment as required.

6.2. Environmental precautions

Environmental precautions: Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses, or onto the ground. See Section 12 for additional Ecological Information.

6.3. Methods and material for containment and cleaning up

Methods for containment: Prevent further leakage or spillage if safe to do so. Dyke far ahead of liquid spill for later disposal.

Methods for cleaning up: Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container. Flush area with water. Prevent runoff from entering drains, sewers, or streams. Dyke far ahead of liquid spill for later disposal.

Prevention of secondary hazards: Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

See section 13 for more information. See section 8 for more information.

Section 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Advice on safe handling: Use personal protective equipment as required. Handle in accordance with good industrial hygiene and safety practice.

General Hygiene Considerations: When using do not eat, drink or smoke. Wash hands thoroughly after handling. Regular cleaning of equipment, work area and clothing is recommended.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions: Keep container tightly closed. Keep/store only in original container. Store away from incompatible materials.

Incompatible materials: Strong oxidizing agents.

7.3. Specific end use(s)

Specific use(s): reagent.

Risk Management Methods (RMM): The information required is contained in this Material Safety Data Sheet.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Exposure Limits:

Chemical name: Formamide 75-12-7					
EU	UK	France	Spain	Germany	Italy
-	STEL: 30ppm STEL: 56 mg/m ³ TWA: 20 ppm TWA: 37 mg/m ³	TWA: 20ppm TWA: 30mg/m ³	S* TWA: 10 ppm TWA: 19 mg/m ³	Skin	-
Portugal	Netherlands	Finland	Denmark	Austria	Switzerland
TWA: 10ppm	-	TWA: 10ppm TWA: 19 mg/m ³ STEL: 20 ppm STEL: 37 mg/m ³ Skin	TWA: 10ppm TWA: 18mg/m ³ Skin	Skin STEL 18 ppm STEL 32 mg/m ³ TWA: 9 ppm TWA: 16 mg/m ³	Skin TWA: 10 ppm TWA: 18 mg/m ³
Poland	Norway	Ireland			
TWA: 23 mg/m ³	TWA: 10ppm TWA: 18 mg/m ³ Skin STEL: 15 ppm STEL: 27 mg/m ³	TWA: 10ppm TWA: 18 mg/m ³ STEL: 30 ppm STEL: 54 mg/m ³			

Chemical name: Sodium azide 26628-22-8					
EU	UK	France	Spain	Germany	Italy
S* TWA 0.1 mg/m ³ STEL 0.3 mg/m ³	STEL: 0.3 mg/m ³ TWA: 0.1 mg/m ³ Skin	TWA: 0.1 mg/m ³ STEL: 0.3 mg/m ³	S* STEL: 0.3 mg/m ³ TWA: 0.1 mg/m ³	TWA: 0.2 mg/m ³ Ceiling / Peak: 0.4 mg/m ³	TWA: 0.1 mg/m ³ STEL: 0.3 mg/m ³ Skin
Portugal	Netherlands	Finland	Denmark	Austria	Switzerland
STEL: 0.3 mg/m ³ Ceiling: 0.29 mg/m ³ Ceiling: 0.11 ppm TWA: 0.1 mg/m ³	Skin STEL: 0.3 mg/m ³ TWA: 0.1 mg/m ³	TWA: 0.1 mg/m ³ STEL: 0.3 mg/m ³ Skin	TWA: 0.1 mg/m ³ Skin	Skin STEL 0.3 mg/m ³ TWA: 0.1 mg/m ³	STEL: 0.4 mg/m ³ TWA: 0.2 mg/m ³
Poland	Norway	Ireland			
STEL: 0.3 mg/m ³ TWA: 0.1 mg/m ³	TWA: 0.1 mg/m ³ STEL: 0.3 mg/m ³	TWA: 0.1 mg/m ³ STEL: 0.3 mg/m ³ Skin			

Chemical name	AGGIH TLV	OSHA PEL	NIOSH IDLH
Formamide 75-12-7	TWA: 10 ppm Skin	(vacated) TWA: 20 ppm (vacated) TWA: 30 mg/m ³ (vacated) STEL: 30 ppm (vacated) STEL: 45 mg/m ³	TWA: 10 ppm TWA: 15 mg/m ³
Sodium azide 26628-22-8	Ceiling: 0.29 mg/m ³ NaN ³ Ceiling: 0.11 ppm Hydrazoic acid vapor	(vacated) S* (vacated) Ceiling: 0.1 ppm HN ³ (vacated) Ceiling: 0.3 mg/m ³ NaN ³	Ceiling: 0.1 ppm HN ³ Ceiling: 0.3 mg/m ³ NaN ³

NIOSH IDLH Immediately Dangerous to Life or Health

Other information: Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

Chemical name	Australia
Formamide 75-12-7	10 ppm 18mg/m ³
Sodium azide 26628-22-8	0.11 ppm Peak 0.3 mg/m ³ Peak

Derived No Effect Level (DNEL): No information available.

Predicted No Effect Concentration (PNEC): No information available.

8.2. Exposure controls

Engineering Controls: Showers, Eyewash stations, Ventilation systems.

Personal protective equipment

Eye/face protection: Wear safety glasses with side shields (or goggles).

Hand Protection: Wear protective gloves and protective clothing.

Skin and body protection: Wear chemical-resistant gloves, footwear and protective clothing appropriate for risk of exposure.

Respiratory protection: No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required. Respiratory protection must be provided in accordance with current local regulations.

Environmental exposure controls: Organisational measures to prevent /limit releases, dispersion and exposure. Discharge into the environment must be avoided. Local authorities should be advised if significant spillages cannot be contained.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties:

Physical state: Liquid

Appearance: Liquid

Odour: Odourless to mild

Odour threshold: No data

Colour: light brown

Property	Values	Remarks
pH		No information available
Melting point/freezing point		No information available
Boiling Point		No information available
Flash point		No information available
Evaporation Rate		No information available
Flammability		No information available
Vapour pressure		No information available
Vapour Density		No information available
Specific Gravity		No information available
Water Solubility		No information available
Solubilities		No information available
Partition coefficient		No information available
Autoignition temperature		No information available
Decomposition temperature		No information available
Kinematic viscosity		No information available
Dynamic viscosity		No information available
Explosive properties		No information available
Oxidising properties		No information available

9.2. Other information

Softening point: No data available

Molecular weight: No data available

VOC Content (%): No data available

Density: No data available

Bulk density: No data available

Section 10: STABILITY AND REACTIVITY

10.1. Reactivity

The product is stable and non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under recommended storage conditions. Stable under normal conditions.

10.3. Possibility of hazardous reactions

Hazardous polymerisation: Hazardous polymerisation does not occur.

Possibility of Hazardous Reactions: None under normal processing.

Hazardous combustion products: No information available.

10.4. Conditions to avoid

Heat.

10.5. Incompatible materials

Strong oxidising agents.

10.6. Hazardous decomposition products

None known.

Section 11: TOXICOLOGICAL INFORMATION
11.1. Information on toxicological effects

Product Information: Reproductive toxicant.

Inhalation: Under normal conditions of intended use, this material is not expected to be an inhalation hazard.

Eye contact: No known effect based on information supplied.

Skin Contact: No known effect based on information supplied.

Ingestion: No harmful effects expected in amounts likely to be ingested by accident.

Acute toxicity: The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral) 40,096.60 mg/kg mg/l

Unknown acute toxicity: 27.7% of the mixture consists of ingredients(s) of unknown toxicity.

Component information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Formamide	= 5577 mg/kg (Rat) > 5000 mg/kg (Rat)	-	>3900 ppm (Rat) 6 h
Sodium azide	= 27 mg/kg (Rat)	= 20 mg/kg (Rabbit) = 50 mg/kg (Rat)	-

Numerical measures of toxicity – product information:

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral): 40,097.00

ATEmix (inhalation-vapour): 23,906.41

Skin corrosion/irritation: Not classified.

Serious eye damage/eye irritation: Not classified.

Sensitisation: Not classified.

Germ cell mutagenicity: Not classified.

Carcinogenicity: Suspected of causing cancer.

Reproductive toxicity: May damage fertility or the unborn child.

Developmental Toxicity: Not classified.

Teratogenicity: Not classified.

STOT - single exposure: Not classified.

STOT - repeated exposure: Not classified.

Target organ effects: Not classified.

Symptoms: None known.

Aspiration hazard: Not classified.

Section 12: ECOLOGICAL INFORMATION
12.1. Toxicity

Product Aquatic Toxicity Status; Not considered to be harmful to aquatic life.

Contains 3% of components with unknown hazards to the aquatic environment.

Chemical name	Algae/aquatic plants	Fish	Crustacea	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Formamide 75-12-7	500 mg/L: EC50 72 h Desmodesmus subspicatus 500 mg/L: EC50 96 h Desmodesmus subspicatus	4600 - 9300 mg/L: LC50 96 h Leuciscus idus static 9135 mg/L: LC50 96 h Brachydanio rerio static	500 mg/L: EC50 48 h Daphnia magna	Carc. 2 (H351) Repr. 1B (H360) STOT RE 2 (H373)
Sodium azide 26628-22-8	-	0.7 mg/L: LC50 96 h Lepomis macrochirus 0.8 mg/L: LC50 96 h Oncorhynchus mykiss 5.46 mg/L: LC50 96 h Pimephales promelas flow-through	-	Acute tx. 2 (H300) (EUH032) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)
Sodium Chloride 26628-22-8	-	4747 - 7824 mg/L: LC50 96 h Oncorhynchus mykiss flow-through 5560 - 6080 mg/L: LC50 96 h Lepomis macrochirus flow-through 6020 - 7070 mg/L: LC50 96 h Pimephales promelas static 6420 - 6700 mg/L: LC50 96 h Pimephales promelas static 12946 mg/L: LC50 96 h Lepomis macrochirus static 7050 mg/L: LC50 96 h Pimephales promelas semi-static	340.7 - 469.2 mg/L: EC50 48 h Daphnia magna Static 1000 mg/L: EC50 48 h Daphnia magna	-

12.2. Persistence and degradability

Not a PBT or vPvB substance or mixture.

This mixture contains no substance considered to be persistent, bioaccumulating or toxic (PBT).

12.3. Bioaccumulative potential

Chemical name	Partition coefficient
Formamide	-0.82

12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

Not a PBT or vPvB substance or mixture.

12.6. Other adverse effects

No data available.

Section 13: DISPOSAL CONSIDERATIONS**13.1. Waste treatment methods****Waste from residues/unused products:**

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging:

Do not re-use container. Disposal should be in accordance with applicable regional, national and local laws and regulations.

Waste codes / waste designations according to EWC / AVV:

Waste codes should be assigned by the user based on the application for which the product was used.

Regional, national and local regulations apply.

US EPA Waste Number: P105

Chemical name	RCRA – Halogenated Organic Compounds	RCRA - P Series Wastes	RCRA - F Series Wastes	RCRA - K Series Wastes
Sodium azide 26628-22-8	-	P105	-	-

This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical name	California Hazardous Waste Status
Sodium azide 26628-22-8	Ignitable Reactive

Other Information:

Waste codes should be assigned by the user based on the application for which the product was used.

Disposal considerations:

Should not be released into the environment This material and its container must be disposed of in a safe way.

Section 14: TRANSPORT INFORMATION**IMDG**

UN/ID no: Not regulated

Proper shipping name: Not regulated

Transport hazard class(es): Not regulated.

Packing Group: Not regulated

Marine pollutant: Not Applicable

Special Provisions: None

Transport in bulk according to Annex II of MARPOL and IBC: Not applicable

RID

UN/ID no: Not regulated

Proper shipping name: Not regulated

Transport Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

Transport in bulk according to Annex II of MARPOL and IBC: Not applicable

ADR

UN/ID no: Not regulated

Proper shipping name: Not regulated

Transport Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

Transport in bulk according to Annex II of MARPOL and IBC: Not applicable

ICAO (air)

UN/ID no: Not regulated

Proper shipping name: Not regulated

Transport Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

Transport in bulk according to Annex II of MARPOL and IBC: Not applicable

IATA

UN/ID no: Not regulated

Proper shipping name: Not regulated

Transport Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

Transport in bulk according to Annex II of MARPOL and IBC: Not applicable

DOT

UN/ID no: Not regulated

Proper shipping name: Not regulated

Transport Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

TDG

UN/ID no: Not regulated

Proper shipping name: Not regulated

Transport Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

MEX

UN/ID no: Not regulated

Proper shipping name: Not regulated

Transport Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

ADN

UN/ID no: Not regulated
 Proper shipping name: Not regulated
 Transport Hazard Class: Not regulated
 Packing Group: Not regulated
 Environmental hazard: Not Applicable
 Special Provisions: None

ADG

UN/ID no: Not regulated
 Proper shipping name: Not regulated
 Transport Hazard Class: Not regulated
 Packing Group: Not regulated
 Environmental hazard: Not Applicable
 Special Provisions: None

Section 15: REGULATORY INFORMATION
15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture
European Union:
SVHC candidates

Chemical name	SVHC candidates
Formamide - 75-12-7	Reason for inclusion Toxic for reproduction, Article 57c (200-842-0)

EU – REACH (1907/2006) – List of Registered Substances

Chemical name	EU - REACH (1907/2006) - List of Registered Substances
Formamide 75-12-7	Present
Sodium azide 26628-22-8	Present

Take note of Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values:
 Not applicable.

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work: Not applicable.

Take note of Directive 94/33/EC on the protection of young people at work: Not applicable.

Take note of Directive 92/85/EC on the protection of pregnant and breastfeeding women at work Not applicable.

Australia

See section 8 for national exposure control parameters

Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP): No poisons schedule number allocated.

Chemical name	National pollutant inventory
Formamide - 75-12-7	20 MW Threshold category 2b total 60000 MWH Threshold category 2b total 1 tonne/h Threshold category 2a total 25 tonne/yr Threshold category 1a total 400 tonne/yr Threshold category 2a total 2000 tonne/yr Threshold category 2b total

International Inventories:

TSCA: Does not comply
 DSL/NDSL: Does not comply
 EINECS/ELINCS: Does not comply
 ENCS: Does not comply
 IECSC: Does not comply
 KECL: Does not comply
 PICCS: Does not comply
 AICS: Does not comply
 INSQ: Complies

US Federal Regulations:
SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Acute health hazard: No
 Chronic Health Hazard: Yes
 Fire hazard: No
 Sudden release of pressure hazard: No
 Reactive Hazard: No

CWA (Clean Water Act)

This product does not contain any substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302).

Chemical name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Sodium azide 26628-22-8	1000 lb	1000 lb	RQ 1000 lb final RQ RQ 454 kg final RQ

US State Regulations
California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Formamide 75-12-7	X	X	X
Sodium azide 26628-22-8	X	X	X

U.S. EPA Label Information

EPA Pesticide Registration Number: Not Applicable.

15.2. Chemical safety assessment

For this substance a chemical safety assessment has not been carried out.

Section 16: OTHER INFORMATIONFurther information

The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

It remains the user's own responsibility to make sure that the information is appropriate and complete for his specific use of this product. The user is also responsible for observing any laws and applicable guidelines.

1 IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING
1.1 Component identifier

Purification Beads
(mixture)

1.2 Relevant identified uses of the substance or mixture and uses advised against:

Reagent.

Uses advised against: No information available.

1.3 Details of the supplier of the safety data sheet:

Refer to Page 1

Section 2: HAZARDS IDENTIFICATION: PURIFICATION BEADS
2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008: This mixture is not classified as hazardous.

OSHA Regulatory Status: This chemical is not considered as hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

2.2. Label elements

Signal word: None

Hazard statements: Not classified as hazardous

Hazards not otherwise classified (HNCO): Not applicable

2.3. Other hazards

Other hazards: This product contains concentrations of azide below the hazardous level which with repeated contact with lead and copper commonly found in plumbing drains may result in the build up of shock sensitive compounds. Sodium azide forms explosive compounds with heavy metals.

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS
3.1. Substances

Not Applicable

3.2. Mixtures

Hazardous Ingredients:		Hazard Classification of Pure Ingredients		
Chemical name	% by wt.	EU-67/548/EEC	EU 1272/2008 CLP/GHS	GHS
Sodium Azide CAS # 26628-22-8 EINECS # 247-852-1 Index # 011-004-00-7	<0.1	T+;R28-32 N;R50/53	Acute Tox. Oral 2 Aquatic Acute 1 Aquatic Longterm 1 H300; H400; H410	Acute Tox. Oral 2 Aquatic Acute 1 Aquatic Longterm 1 H300; H400; H410

Section 4: FIRST AID MEASURES**4.1. Description of first aid measures**

Inhalation: If product is inhaled, move exposed individual to fresh air. If individual is not breathing, begin artificial respiration immediately and obtain medical attention.

Skin Contact: Wash skin with soap and water. Get medical attention if irritation develops and persists.

Eye contact: If product enters eyes, wash eyes gently under running water for 15 minutes or longer, making sure that the eyelids are held open. If pain or irritation occur, obtain medical attention.

Ingestion: If ingested, wash mouth out with water. If irritation or discomfort occurs, seek medical attention.

Most important symptoms and effects, both acute and delayed:

Symptoms: No adverse symptoms or effects have been identified.

Indication of any immediate medical attention and special treatment needed:

Note to physicians: No specific medical attention or treatment required.

Section 5: FIRE FIGHTING MEASURES

Flammable properties: Nonflammable aqueous solution.

5.1. Extinguishing media

Suitable extinguishing media: For large fires use extinguishing media suitable for surrounding fire. In case of fire use carbon dioxide (CO₂), dry chemical, water spray or foam.

Unsuitable extinguishing media: None known.

5.2. Special hazards arising from the substance or mixture

None known.

Hazardous combustion products: No information available.

5.3. Advice for firefighters

Self-contained breathing apparatus is recommended for firefighters in all chemical fire situations.

Section 6: ACCIDENTAL RELEASE MEASURES**6.1. Personal precautions, protective equipment and emergency procedures**

Personal precautions: Use good laboratory procedures; avoid eye and skin contact.

For emergency responders: Use personal protection recommended in Section 8. Keep unnecessary personnel away

For non-emergency personnel: Use personal protective equipment as required

6.2. Environmental precautions

Environmental precautions: Contain spill to prevent migration. Do not allow the undiluted product to enter sewers/surface or ground water. Dispose of contents/container in accordance with local regulations.

6.3. Methods and material for containment and cleaning up

Methods for containment: Prevent further leakage or spillage if safe to do so. Dyke far ahead of liquid spill for later disposal.

Methods for cleaning up: Absorb spilled material with an appropriate inert, non-flammable absorbent and dispose according to local regulations.

6.4. Reference to other sections

See section 13 for more information. See section 8 for more information.

Section 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Advice on safe handling: Use good laboratory procedures; avoid eye and skin contact.

General Hygiene Considerations: When using do not eat, drink or smoke. Wash hands thoroughly after handling. Regular cleaning of equipment, work area and clothing is recommended.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions: To maintain quality, store according to the instructions in the product labelling.

Incompatible materials: Strong acids, strong oxidizers and incompatible materials (section 10).

7.3. Specific end use(s)

Specific use(s): reagent.

Risk Management Methods (RMM): The information required is contained in this Material Safety Data Sheet.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Exposure Limits:

US OSHA: None established

ACCGIH: Sodium Azide (CAS#26628-22-8): 0.29 mg/m³ Ceiling (as NaN₃); 0.11 ppm Ceiling (as Hydrazoic acid) (vapor)

DFG MAK: Sodium Azide (CAS#26628-22-8): 0.4 mg/m³ Peak (inhalable fraction); 0.2 mg/m³ TWA MAK (inhalable fraction)

Ireland: Sodium Azide (CAS#26628-22-8): 0.1 mg/m³ TWA (as NaN₃); 0.3 mg/m³ STEL (as NaN₃); Potential for cutaneous absorption

IOELVs: Sodium Azide (CAS#26628-22-8): Possibility of significant uptake through the skin; 0.1 mg/m³ TWA; 0.3 mg/m³ STEL

NIOSH: None established

Japan: None established

Derived No Effect Level (DNEL): No information available.

Predicted No Effect Concentration (PNEC): No information available.

8.2. Exposure controls

Engineering Controls: No special engineering controls are required. Use with good general ventilation.

Personal protective equipment

Eye/face protection: Safety glasses or chemical goggles should be worn to prevent eye contact.

Refer U.S. OSHA 29 CFR 1910.133, European Standard EN166 or appropriate government standards.

Skin and body protection: Impervious gloves, such as Nitrile or equivalent, should be worn to prevent skin contact. Refer U.S. OSHA 29 CFR 1910.138, European Standard EN374 or appropriate government standards.

Respiratory protection: Under normal conditions, the use of this product should not require respiratory protection.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties:

Physical state: Liquid

Appearance: Brown Liquid

Odour: Odourless

Odour threshold: No data

Property	Values	Remarks
pH		8.0 – 8.4
Melting point/freezing point		No information available
Boiling Point		No information available
Flash point		No information available
Evaporation Rate		No information available
Flammability		No information available
Vapour pressure		No information available
Vapour Density		No information available
Specific Gravity		No information available
Water Solubility		No information available
Solubilities		No information available
Partition coefficient		No information available
Autoignition temperature		No information available
Decomposition temperature		No information available
Kinematic viscosity		No information available
Dynamic viscosity		No information available
Explosive properties		No information available
Oxidising properties		No information available

9.2. Other information

Softening point: No data available

Molecular weight: No data available

VOC Content (%): No data available

Density: No data available

Bulk density: No data available

Section 10: STABILITY AND REACTIVITY

10.1. Reactivity

The product is stable and non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under recommended storage conditions. Stable under normal conditions.

10.3. Possibility of hazardous reactions

This product contains concentrations of azide below the hazardous level which with repeated contact with lead and copper commonly found in plumbing drains may result in the build up of shock sensitive compounds. Sodium azide forms explosive compounds with heavy metals.

10.4. Conditions to avoid

Heat.

10.5. Incompatible materials

Metals and metallic compounds

10.6. Hazardous decomposition products

None known.

Section 11: TOXICOLOGICAL INFORMATION**11.1. Information on toxicological effects****Toxicity Data for Hazardous Ingredients**

Sodium Azide

CAS # 26628-22-8 Oral LD50 Rat 27 mg/kg; Dermal LD50 Rat 50 mg/kg; Dermal LD50 Rabbit 20 mg/kg

Primary Routes of Exposure: Eye contact, ingestion, inhalation, and skin contact.

Skin Corrosion/Irritation: No data available.

Serious eye damage/eye irritation:

No data available.

Respiratory/skin sensitization No data available.

Carcinogenicity: No ingredients in this product are listed as carcinogens by ACGIH, IARC, NTP, OSHA or 1272/2008 EC regulation.

Germ cell mutagenicity: No data available.

Reproductive Toxicity: No data available.

Specific target organ toxicity – single exposure

No data available.

Specific target organ toxicity – repeated exposure

No data available.

Aspiration hazard No data available.

Other Information No further relevant information available.

Section 12: ECOLOGICAL INFORMATION**12.1. Toxicity****Fresh Water Species**

Sodium Azide CAS# 26628-22-8: 96 h LC50 Oncorhynchus mykiss: 0.8 mg/L; 96 h LC50 Lepomis macrochirus: 0.7 mg/L; 96 h LC50 Pimephales promelas: 5.46 mg/L [fow-through]

Microtox: No information available.

Water Flea: No information available.

Fresh Water Algae: No information available.

12.2. Persistence and degradability

Not determined for product.

12.3. Bioaccumulative potential

Not determined for product.

12.4. Mobility in soil

Not determined for product

12.5. Results of PBT and vPvB assessment

Not a PBT or vPvB substance or mixture.

12.6. Other adverse effects

This product contains environmentally hazardous substance below the cutoff level. Refer section 3 for ingredient information. Do not allow undiluted product to enter sewer/surface or ground water.

Section 13: DISPOSAL CONSIDERATIONS**13.1. Waste treatment methods****Waste from residues/unused products:**

Chemical residues and remains should be routinely handled as special waste. This must be disposed of in compliance with anti-pollution and other laws of the country concerned. To ensure compliance we recommend that you contact the relevant (local) authorities and/or an approved waste-disposal company for information. Sodium azide preservative may form explosive compounds in metal drain lines.

See NIOSH Bulletin: Explosive Azide Hazard (8/16/76).

To avoid the possible build-up of azide compounds, flush wastepipes with water after the disposal of undiluted reagent. Sodium azide disposal must be in accordance with appropriate local regulations

Contaminated packaging:

Do not re-use container. Disposal should be in accordance with applicable regional, national and local laws and regulations.

Waste codes / waste designations according to EWC / AVV:

Waste codes should be assigned by the user based on the application for which the product was used. Regional, national and local regulations apply.

Other Information:

Waste codes should be assigned by the user based on the application for which the product was used.

Disposal considerations:

Should not be released into the environment This material and its container must be disposed of in a safe way.

Section 14: TRANSPORT INFORMATION**IMDG**

UN/ID no: Not regulated

Proper shipping name: Not regulated

Transport hazard class(es): Not regulated.

Packing Group: Not regulated

Marine pollutant: Not Applicable

Special Provisions: None

Tra Transport in bulk according to Annex II of MARPOL and IBC: Not applicable

RID

UN/ID no: Not regulated

Proper shipping name: Not regulated

Transport Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

Transport in bulk according to Annex II of MARPOL and IBC: Not applicable

ADR

UN/ID no: Not regulated

Proper shipping name: Not regulated

Transport Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

Transport in bulk according to Annex II of MARPOL and IBC: Not applicable

ICAO (air)

UN/ID no: Not regulated

Proper shipping name: Not regulated

Transport Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

Transport in bulk according to Annex II of MARPOL and IBC: Not applicable

IATA

UN/ID no: Not regulated

Proper shipping name: Not regulated

Transport Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

Transport in bulk according to Annex II of MARPOL and IBC: Not applicable

DOT

UN/ID no: Not regulated

Proper shipping name: Not regulated

Transport Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

TDG

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Version: 4.4

UN/ID no: Not regulated
Proper shipping name: Not regulated
Transport Hazard Class: Not regulated
Packing Group: Not regulated
Environmental hazard: Not Applicable
Special Provisions: None

MEX

UN/ID no: Not regulated
Proper shipping name: Not regulated
Transport Hazard Class: Not regulated
Packing Group: Not regulated
Environmental hazard: Not Applicable
Special Provisions: None

ADN

UN/ID no: Not regulated
Proper shipping name: Not regulated
Transport Hazard Class: Not regulated
Packing Group: Not regulated
Environmental hazard: Not Applicable
Special Provisions: None

ADG

UN/ID no: Not regulated
Proper shipping name: Not regulated
Transport Hazard Class: Not regulated
Packing Group: Not regulated
Environmental hazard: Not Applicable
Special Provisions: None

Section 15: REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

15.2. Chemical safety assessment

For this substance a chemical safety assessment has not been carried out.

US Federal and State Regulations

SARA 313: Sodium Azide is subject to reporting requirements of Section 313, Title III of SARA. 1.0 % de minimis concentration

CERCLA RG's, 40 CFR 302.4: Sodium Azide is listed.

California Proposition 65 No ingredients listed.

Massachusetts MSL Sodium Azide is listed.

New Jersey Dept. of Health RTK List: Sodium Azide is listed.

Pennsylvania RTK: Sodium Azide is listed.

EU Regulations

This SDS complies with EC Regulations 1907/2006 (REACH) and amendments.

Water Hazard Class (Germany): WGK 1, low water endangering

REACH 1907/2006 EC - Annex XIV - list of substances subject to authorization.

No ingredients listed.

According to EC Directives (1999/45/EC and 67/548 EEC)

Not classified as dangerous per EC Directives (1999/45/EC and 67/548 EEC)

Canada

This product does not meet WHMIS criteria for hazardous materials.

PIN Not applicable

Ingredients on Ingredient Disclosure List

Sodium Azide

Ingredients with unknown toxicological properties

None

Section 16: OTHER INFORMATIONFurther information

The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

It remains the user's own responsibility to make sure that the information is appropriate and complete for his specific use of this product. The user is also responsible for observing any laws and applicable guidelines.

1 IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING**1.1 Component identifier**

Tagmentation Beads
(Mixture)

1.2 Relevant identified uses of the substance or mixture and uses advised against:

Reagent.

Uses advised against: No information available.

1.3 Details of the supplier of the safety data sheet:

Refer to Page 1

Section 2: HAZARDS IDENTIFICATION: Tagmentation Beads**2.1. Classification of the substance or mixture**

Regulation (EC) No 1272/2008: This mixture is classified as not hazardous.

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classified as not a dangerous substance or mixture in accordance with the criteria of Safe Work Australia - Globally Harmonised System (GHS).

2.2. Label elements

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [GHS].

Signal word:

None

Hazard statements:

Not applicable

Precautionary Statements**EU (§28, 1272/2008) & US Regulation:**

Handle in accordance with good industrial hygiene and safety practice

P101 - If medical advice is needed, have product container or label at hand

P273 - Avoid release to the environment

P391 - Collect spillage

P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable

Hazards not otherwise classified (HNOC): Not applicable

2.3. Other hazards

Other hazards: None known

Persistence and degradability: See Section 12 for additional Ecological Information

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS**3.1. Substances**

Not Applicable.

3.2. Mixtures

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [CLP].

Chemical name	EC No	CAS No	Weight - %	Classification according to Regulation (EC) No. 1272/2008
Glycerol	200-289-5	56-81-5	10-30	No data
Sodium azide	247-852-1	26628-22-8	<0.1%	Acute Tox. 2 (H300) (EUH032) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)

Additional information: No information available.

Section 4: FIRST AID MEASURES**4.1. Description of first aid measures**

General advice: Use first aid treatment according to the nature of the injury.

Inhalation: If symptomatic, move to fresh air. If symptoms persist, call a doctor.

Skin Contact: Wash skin with soap and water. Get medical attention if irritation develops and persists.

Eye contact: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

Ingestion: Get medical advice/attention.

Self-protection of the first aider: Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

Most important symptoms and effects, both acute and delayed:

Symptoms: No information available.

Indication of any immediate medical attention and special treatment needed:

Note to physicians: Treat symptomatically.

Section 5: FIRE FIGHTING MEASURES**5.1. Extinguishing media**

Suitable extinguishing media: Water. Water spray (fog). Foam. Dry chemical. Carbon dioxide (CO₂).

Unsuitable extinguishing media: None known.

5.2. Special hazards arising from the substance or mixture

None known.

Hazardous combustion products: No information available.

Explosion data Sensitivity to Mechanical Impact: None.

Sensitivity to Static Discharge: None.

5.3. Advice for firefighters

In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment as required.

Section 6: ACCIDENTAL RELEASE MEASURES**6.1. Personal precautions, protective equipment and emergency procedures**

Personal precautions: Use personal protective equipment as required.

For emergency responders: Use personal protection recommended in Section 8. Keep unnecessary personnel away.

For non-emergency personnel: Use personal protective equipment as required.

6.2. Environmental precautions

Environmental precautions: Avoid discharge into drains, water courses, or onto the ground. See Section 12 for additional Ecological Information.

6.3. Methods and material for containment and cleaning up

Methods for containment: Prevent further leakage or spillage if safe to do so. Dyke far ahead of liquid spill for later disposal.

Methods for cleaning up: Use personal protective equipment as required. Contain and collect spillage with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see Section 13).

Large spill. Prevent runoff from entering drains, sewers, or streams. Dyke far ahead of liquid spill for later disposal.

Prevention of secondary hazards: Clean contaminated objects and areas thoroughly observing environmental regulations

6.4. Reference to other sections

See section 13 for more information. See section 8 for more information.

Section 7: HANDLING AND STORAGE**7.1. Precautions for safe handling**

Advice on safe handling: Handle in accordance with good industrial hygiene and safety practice. Use personal protective equipment as required.

General Hygiene Considerations: Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions: Keep container tightly closed in a dry and well-ventilated place. Keep/store only in original container. Store away from incompatible materials.

7.3. Specific end use(s)

Specific use(s): reagent.

Risk Management Methods (RMM): The information required is contained in this Material Safety Data Sheet.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION
8.1. Control parameters
Exposure Limits:

Chemical name	European Union	United Kingdom	France	Spain	Germany
Glycerol 56-81-5	-	STEL: 30 mg/m ³ TWA: 10 mg/m ³	TWA: 10 mg/m ³	TWA: 10 mg/m ³	TWA: 200 mg/m ³ Ceiling / Peak: 400 mg/m ³
Sodium azide 26628-22-8	S* TWA 0.1 mg/m ³ STEL 0.3 mg/m ³	STEL: 0.3 mg/m ³ TWA: 0.1 mg/m ³ Skin	TWA: 0.1 mg/m ³ STEL: 0.3 mg/m ³	S* STEL: 0.3 mg/m ³ TWA: 0.1 mg/m ³	TWA: 0.2 mg/m ³ Ceiling / Peak: 0.4 mg/m ³
Chemical name	Italy	Portugal	Netherlands	Finland	Denmark
Glycerol 56-81-5	-	TWA: 10 mg/m ³	-	TWA: 20 mg/m ³	-
Sodium azide 26628-22-8	TWA: 0.1 mg/m ³ STEL: 0.3 mg/m ³ Skin	STEL: 0.3 mg/m ³ Ceiling: 0.29 mg/m ³ Ceiling: 0.11 ppm TWA: 0.1 mg/m ³	Skin STEL: 0.3 mg/m ³ TWA: 0.1 mg/m ³	TWA: 0.1 mg/m ³ STEL: 0.3 mg/m ³ Skin	TWA: 0.1 mg/m ³ Skin
Chemical name	Austria	Switzerland	Poland	Norway	Ireland
Glycerol 56-81-5	-	STEL: 100 mg/m ³ TWA: 50 mg/m ³	TWA: 10 mg/m ³	-	TWA: 10 mg/m ³ STEL: 30 mg/m ³
Sodium azide 26628-22-8	Skin STEL 0.3 mg/m ³ TWA: 0.1 mg/m ³	STEL: 0.4 mg/m ³ TWA: 0.2 mg/m ³	STEL: 0.3 mg/m ³ TWA: 0.1 mg/m ³	TWA: 0.1 mg/m ³ STEL: 0.3 mg/m ³	TWA: 0.1 mg/m ³ STEL: 0.3 mg/m ³ Skin

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Glycerol 56-81-5	-	TWA: 15 mg/m ³ mist, total particulate TWA: 5 mg/m ³ mist, respirable fraction (vacated) TWA: 10 mg/m ³ mist, total particulate (vacated) TWA: 5 mg/m ³ mist, respirable fraction	-
Sodium azide 26628-22-8	Ceiling: 0.29 mg/m ³ NaN ₃ Ceiling: 0.11 ppm Hydrazoic acid vapor	(vacated) S* (vacated) Ceiling: 0.1 ppm HN ₃ (vacated) Ceiling: 0.3 mg/m ³ NaN ₃	Ceiling: 0.1 ppm HN ₃ Ceiling: 0.3 mg/m ³ NaN ₃

Legend

NIOSH IDLH Immediately Dangerous to Life or Health

Other Information: Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

Chemical name	Australia	New Zealand
Glycerol 56-81-5	10 mg/m ³	TWA: 10 mg/m ³
Sodium azide 26628-22-8	0.11 ppm Peak 0.3 mg/m ³ Peak	Ceiling: 0.11 ppm Ceiling: 0.29 mg/m ³

Derived No Effect Level (DNEL): No information available.

Predicted No Effect Concentration (PNEC): No information available.

8.2. Exposure controls

Engineering Controls: Showers, Eyewash stations, Ventilation systems.

Personal protective equipment:

Eye/face protection: Wear safety glasses with side shields (or goggles).

Hand Protection: Wear protective gloves and protective clothing.

Skin and body protection: Wear chemical-resistant gloves, footwear and protective clothing appropriate for risk of exposure.

Respiratory protection: No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

Environmental exposure controls: Local authorities should be advised if significant spillages cannot be contained.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES
9.1. Information on basic physical and chemical properties:

Physical state: Liquid

Appearance: Liquid contains beads

Odour: Odourless

Odour threshold: No data

Colour: brown

Property	Values	Remarks
pH		No Information available
Melting point/freezing point		No information available
Boiling Point		No information available
Flash point		No information available
Evaporation Rate		No information available
Flammability		No information available
Vapour pressure		No information available
Vapour Density		No information available
Specific Gravity		No information available
Water Solubility		No information available
Solubilities		No information available
Partition coefficient		No information available
Autoignition temperature		No information available
Decomposition temperature		No information available
Kinematic viscosity		No information available
Dynamic viscosity		No information available
Explosive properties		No information available
Oxidising properties		No information available

9.2. Other information

Softening point: No data available

Molecular weight: No data available

VOC Content (%): No data available

Density: No data available

Bulk density: No data available

Section 10: STABILITY AND REACTIVITY
10.1. Reactivity

The product is stable and non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under recommended storage conditions. Stable under normal conditions.

10.3. Possibility of hazardous reactions

Hazardous polymerization: Hazardous polymerisation does not occur.

Possibility of Hazardous Reactions: None under normal processing.

Hazardous combustion products: No information available.

10.4. Conditions to avoid

None known based on information supplied.

10.5. Incompatible materials

Strong oxidising agents.

10.6. Hazardous decomposition products

None known based on information supplied.

Section 11: TOXICOLOGICAL INFORMATION
11.1. Information on toxicological effects

Product Information: Low hazard for usual industrial or commercial handling by trained personnel.

Inhalation: Under normal conditions of intended use, this material is not expected to be an inhalation hazard.

Eye contact: No known effect based on information supplied.

Skin Contact: No known effect based on information supplied.

Ingestion: No harmful effects expected in amounts likely to be ingested by accident.

Acute toxicity:

15.4% of the mixture consists of ingredient(s) of unknown toxicity

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Glycerol	= 12600 mg/kg (Rat)	> 10 g/kg (Rabbit)	> 570 mg/m ³ (Rat) 1 h
Sodium azide	= 27 mg/kg (Rat)	= 20 mg/kg (Rabbit) = 50 mg/kg (Rat)	-

Skin corrosion/irritation: Not classified.

Serious eye damage/eye irritation: Not classified.

Sensitisation: Not classified.

Germ cell mutagenicity: Not classified.

Carcinogenicity: Not classifiable as a human carcinogen. This product does not contain any carcinogens as listed by OSHA, IARC or NTP.

Reproductive toxicity: Not classified.

Developmental Toxicity: Not classified.

Teratogenicity: Not classified.

STOT - single exposure: Not classified.

STOT - repeated exposure: Not classified.

Target organ effects: Not classified.

Symptoms: None known.

Aspiration hazard: Not classified.

Section 12: ECOLOGICAL INFORMATION
12.1. Toxicity

Harmful to aquatic life with long lasting effects.

Contains 0% of components with unknown hazards to the aquatic environment.

Chemical name	Algae/aquatic plants	Fish	Crustacea
Glycerol	-	51 - 57 mL/L: LC50 96 h Oncorhynchus mykiss static	500 mg/L: EC50 24 h Daphnia magna

Sodium azide	-	0.7 mg/L: LC50 96 h Lepomis macrochirus 0.8 mg/L: LC50 96 h Oncorhynchus mykiss 5.46 mg/L: LC50 96 h Pimephales promelas flow-through	-
Sodium chloride	-	4747 - 7824 mg/L: LC50 96 h Oncorhynchus mykiss flow-through 5560 - 6080 mg/L: LC50 96 h Lepomis macrochirus flow-through 6020 - 7070 mg/L: LC50 96 h Pimephales promelas static 6420 6700 mg/L: LC50 96 h Pimephales promelas static 12946 mg/L: LC50 96 h Lepomis macrochirus static 7050 mg/L: LC50 96 h Pimephales promelas semi-static	340.7 - 469.2 mg/L: EC50 48 h Daphnia magna Static 1000 mg/L: EC50 48 h Daphnia magna

12.2. Persistence and degradability

Not a PBT or vPvB substance or mixture.

12.3. Bioaccumulative potential

Chemical Name	Partition coefficient
Glycerol	-1.76

12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

Not a PBT or vPvB substance or mixture.

12.6. Other adverse effects

No data available.

Section 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste from residues/unused products:

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging:

Do not re-use container. Disposal should be in accordance with applicable regional, national and local laws and regulations.

Chemical name	RCRA - Halogenated Organic Compounds	RCRA - P Series Wastes	RCRA - F Series Wastes	RCRA - K Series Wastes
Sodium azide 26628-22-8	-	P105	-	-

This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical name	California Hazardous Waste Status
Sodium azide 26628-22-8	Ignitable Reactive

Waste codes / waste designations according to EWC / AVV:

Waste codes should be assigned by the user based on the application for which the product was used.
Regional, national and local regulations apply.

Other Information:

Waste codes should be assigned by the user based on the application for which the product was used.

Disposal considerations:

Should not be released into the environment This material and its container must be disposed of in a safe way.

Section 14: TRANSPORT INFORMATION**IMDG**

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated

Packing Group: Not regulated

Marine pollutant: Not Applicable

Special Provisions: None

Transport in bulk according to Annex II of MARPOL and the IBC Code : Not applicable

RID

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

Transport in bulk according to Annex II of MARPOL and the IBC Code : Not applicable

ADR

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

Transport in bulk according to Annex II of MARPOL and the IBC Code : Not applicable

ICAO (air)

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

Transport in bulk according to Annex II of MARPOL and the IBC Code : Not applicable

IATA

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

Transport in bulk according to Annex II of MARPOL and the IBC Code : Not applicable

DOT

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

TDG

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

MEX

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

ADN

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

Section 15: REGULATORY INFORMATION**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****European Union:****EU-REACH (1907/2006) – List of Registered Substances**

Chemical name	EU - REACH (1907/2006) - List of Registered Substances
Glycerol 56-81-5	Present
Sodium azide 26628-22-8	Present

Take note of Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values:
Not applicable.

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work: Not applicable.

Take note of Directive 94/33/EC on the protection of young people at work: Not Applicable.

Take note of Directive 92/85/EC on the protection of pregnant and breastfeeding women at work: Not applicable.

International Inventories:

TSCA: Does not comply

DSL/NDL: Does not comply

EINECS/ELINCS: Does not comply

ENCS: Does not comply

IECSC: Does not comply

KECL: Does not comply

PICCS: Does not comply

AICS: Does not comply

INSQ: Does not comply

US Federal Regulations:
SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Acute health hazard: No

Chronic Health Hazard: No

Fire hazard: No

Sudden release of pressure hazard: No

Reactive Hazard: No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302).

Chemical name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Sodium azide 26628-22-8	1000 lb	1000 lb	RQ 1000 lb final RQ RQ 454 kg final RQ

US State Regulations
California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Glycerol 56-81-5	X	X	X
Sodium azide 26628-22-8	X	X	X
Hydrogen chloride 7647-01-0	X	X	X

U.S. EPA Label Information

EPA Pesticide Registration Number: Not Applicable.

15.2. Chemical safety assessment

For this substance a chemical safety assessment has not been carried out.

Australian Regulations

See section 8 for national exposure control parameters.

Not classified as a hazardous substance in accordance with the criteria of Safe Work Australia - Globally Harmonised System.

Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP). Classified as a scheduled poison according to the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP)

Poison Schedule Number 4

Chemical name	Standard for the Uniform Scheduling of Medicines and Posions (SUSMP)	Poison Schedule Number
Tris-(hydroxymethyl)aminomethane - 77-86-1	4: in preparations for injection except in preparations containing <=3% of Trometamol	4

Major hazard (accident/incident planning) regulation: Verify that licence requirements are met
Named hazardous chemicals.

National pollutant inventory: Subject to reporting requirement.

Section 16: OTHER INFORMATION

Further information

The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

It remains the user's own responsibility to make sure that the information is appropriate and complete for his specific use of this product. The user is also responsible for observing any laws and applicable guidelines.

1 IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING**1.1 Component identifier**

PCR Primers, AlloSeq® Tx Index Primers, AlloSeq Tx Probes
(Mixture)

1.2 Relevant identified uses of the substance or mixture and uses advised against:

Reagent.

Uses advised against: No information available.

1.3 Details of the supplier of the safety data sheet:

Refer to Page 1

Section 2: HAZARDS IDENTIFICATION: PCR Primers**2.1. Classification of the substance or mixture**

Regulation (EC) No 1272/2008: This mixture is classified as not hazardous.

Classification according to Directive 67/548/EEC or 1999/45/EC: This mixture is not classified as dangerous according to 1999/45/EC.

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classified as not a dangerous substance or mixture in accordance with the criteria of Safe Work Australia - Globally Harmonised System (GHS).

2.2. Label elements

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [GHS].

Signal word:

None

Hazard statements:

Not applicable

Precautionary Statements**EU (§28, 1272/2008) & US Regulation:**

P101 - If medical advice is needed, have product container or label at hand

Hazards not otherwise classified (HNOC): Not applicable

2.3. Other hazards

Other hazards: None known

Persistence and degradability: See Section 12 for additional Ecological Information

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS**3.1. Substances**

Not Applicable.

3.2. Mixtures

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [GHS].

Additional information: No information available.

Section 4: FIRST AID MEASURES**4.1. Description of first aid measures**

General advice: Treat symptomatically.

Inhalation: If symptomatic, move to fresh air. If symptoms persist, call a doctor.

Skin Contact: Wash skin with soap and water. Get medical attention if irritation develops and persists.

Eye contact: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

Ingestion: Get medical advice/attention.

Self-protection of the first aider: Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

Most important symptoms and effects, both acute and delayed:

Symptoms: No information available.

Indication of any immediate medical attention and special treatment needed:

Note to physicians: Treat symptomatically.

Section 5: FIRE FIGHTING MEASURES**5.1. Extinguishing media**

Suitable extinguishing media: Water. Water spray (fog). Foam. Dry chemical. Carbon dioxide (CO₂).

Unsuitable extinguishing media: None known.

5.2. Special hazards arising from the substance or mixture

None known.

Hazardous combustion products: Carbon oxides.

Explosion data Sensitivity to Mechanical Impact: None.

Sensitivity to Static Discharge: None

5.3. Advice for firefighters

In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment as required.

Section 6: ACCIDENTAL RELEASE MEASURES**6.1. Personal precautions, protective equipment and emergency procedures**

Personal precautions: Use personal protective equipment as required.

For emergency responders: Use personal protection recommended in Section 8. Keep unnecessary personnel away.

For non-emergency personnel: Use personal protective equipment as required.

6.2. Environmental precautions

Environmental precautions: Avoid discharge into drains, water courses, or onto the ground. See Section 12 for additional Ecological Information.

6.3. Methods and material for containment and cleaning up

Methods for containment: Prevent further leakage or spillage if safe to do so. Dyke far ahead of liquid spill for later disposal.

Methods for cleaning up: Use personal protective equipment as required. Contain and collect spillage with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see Section 13).

Large spill. Prevent runoff from entering drains, sewers, or streams. Dyke far ahead of liquid spill for later disposal.

Prevention of secondary hazards: Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

See section 13 for more information. See section 8 for more information.

Section 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Advice on safe handling: Handle in accordance with good industrial hygiene and safety practice. Use personal protective equipment as required.

General Hygiene Considerations: Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions: Keep container tightly closed in a dry and well-ventilated place. Keep/store only in original container. Store away from incompatible materials.

7.3. Specific end use(s)

Specific use(s): reagent.

Risk Management Methods (RMM): The information required is contained in this Material Safety Data Sheet.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Exposure Limits: This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region-specific regulatory bodies.

Derived No Effect Level (DNEL): No information available.

Predicted No Effect Concentration (PNEC): No information available.

8.2. Exposure controls

Engineering Controls: Showers, Eyewash stations, Ventilation systems.

Personal protective equipment:

Eye/face protection: Wear safety glasses with side shields (or goggles).

Hand Protection: Wear protective gloves and protective clothing.

Skin and body protection: Wear chemical-resistant gloves, footwear and protective clothing appropriate for risk of exposure.

Respiratory protection: No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

Environmental exposure controls: Local authorities should be advised if significant spillages cannot be contained.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties:

Physical state: Liquid

Appearance: Colourless liquid

Odour: Odourless

Odour threshold: No data

Colour: colourless

Property	Values	Remarks
pH		No Information available
Melting point/freezing point		No information available
Boiling Point		No information available
Flash point		No information available
Evaporation Rate		No information available
Flammability		No information available
Vapour pressure		No information available
Vapour Density		No information available
Specific Gravity		No information available
Water Solubility		No information available
Solubilities		No information available
Partition coefficient		No information available
Autoignition temperature		No information available
Decomposition temperature		No information available
Kinematic viscosity		No information available
Dynamic viscosity		No information available
Explosive properties		No information available
Oxidising properties		No information available

9.2. Other information

Softening point: No data available

Molecular weight: No data available

VOC Content (%): No data available

Density: No data available

Bulk density: No data available

Section 10: STABILITY AND REACTIVITY

10.1. Reactivity

The product is stable and non-reactive under normal conditions of use, storage and transport

10.2. Chemical stability

Stable under recommended storage conditions. Stable under normal conditions.

10.3. Possibility of hazardous reactions

Hazardous polymerization: Hazardous polymerisation does not occur.

Possibility of Hazardous Reactions: None under normal processing.

Hazardous combustion products: No information available

10.4. Conditions to avoid

None known based on information supplied.

10.5. Incompatible materials

Strong oxidising agents.

10.6. Hazardous decomposition products

None known based on information supplied.

Section 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Product Information: Low hazard for usual industrial or commercial handling by trained personnel.

Inhalation: Under normal conditions of intended use, this material is not expected to be an inhalation hazard.

Eye contact: Direct contact with eyes may cause temporary irritation.

Skin Contact: Prolonged contact may cause redness and irritation.

Ingestion: No harmful effects expected in amounts likely to be ingested by accident.

Skin corrosion/irritation: Not classified.

Serious eye damage/eye irritation: Not classified.

Sensitisation: Not classified.

Germ cell mutagenicity: Not classified.

Carcinogenicity: Not classifiable as a human carcinogen. This product does not contain any carcinogens as listed by OSHA, IARC or NTP.

Reproductive toxicity: Not classified.

Developmental Toxicity: Not classified.

Teratogenicity: Not classified.

STOT - single exposure: Not classified.

STOT - repeated exposure: Not classified.

Target organ effects: Not classified.

Symptoms: None known.

Aspiration hazard: Not classified.

Section 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Harmful to aquatic life with long lasting effects.

Contains 0% of components with unknown hazards to the aquatic environment.

12.2. Persistence and degradability

Not a PBT or vPvB substance or mixture.

12.3. Bioaccumulative potential

No data available.

12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

Not a PBT or vPvB substance or mixture.

12.6. Other adverse effects

No data available.

Section 13: DISPOSAL CONSIDERATIONS**13.1. Waste treatment methods****Waste from residues/unused products:**

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging:

Do not re-use container. Disposal should be in accordance with applicable regional, national and local laws and regulations.

Waste codes / waste designations according to EWC / AVV:

Waste codes should be assigned by the user based on the application for which the product was used.

Regional, national and local regulations apply.

Other Information:

Waste codes should be assigned by the user based on the application for which the product was used.

Disposal considerations:

Should not be released into the environment.

Section 14: TRANSPORT INFORMATION**IMDG**

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated

Packing Group: Not regulated

Marine pollutant: Not Applicable

Special Provisions: None

Transport in bulk according to Annex II of MARPOL and the IBC Code : Not applicable

RID

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

Transport in bulk according to Annex II of MARPOL and the IBC Code : Not applicable

ADR

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

Transport in bulk according to Annex II of MARPOL and the IBC Code : Not applicable

ICAO (air)

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

Transport in bulk according to Annex II of MARPOL and the IBC Code : Not applicable

IATA

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

Transport in bulk according to Annex II of MARPOL and the IBC Code : Not applicable

DOT

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

TDG

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

MEX

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

ADN

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

Section 15: REGULATORY INFORMATION**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****European Union:**

Take note of Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values:
Not applicable.

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work: Not applicable.

Take note of Directive 94/33/EC on the protection of young people at work: Not Applicable.

International Inventories:

TSCA: Does not comply

DSL/NDL: Does not comply

EINECS/ELINCS: Does not comply

ENCS: Does not comply

IECSC: Does not comply

KECL: Does not comply

PICCS: Does not comply

AICS: Does not comply

INSQ: Does not comply

US Federal Regulations:**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Acute health hazard: No

Chronic Health Hazard: No

Fire hazard: No

Sudden release of pressure hazard: No

Reactive Hazard: No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

US State Regulations**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

This product does not contain any substances regulated by state right-to-know regulations.

U.S. EPA Label Information

EPA Pesticide Registration Number: Not Applicable.

15.2. Chemical safety assessment

For this substance a chemical safety assessment has not been carried out.

Australian Regulations

See section 8 for national exposure control parameters.

Not classified as a hazardous substance in accordance with the criteria of Safe Work Australia - Globally Harmonised System.

Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP): No poisons schedule number allocated.

Section 16: OTHER INFORMATION

Further information

The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

It remains the user's own responsibility to make sure that the information is appropriate and complete for his specific use of this product. The user is also responsible for observing any laws and applicable guidelines.

1 IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING**1.1 Component identifier**

Capture Wash Buffer
(Mixture)

1.2 Relevant identified uses of the substance or mixture and uses advised against:

Reagent.

Uses advised against: No information available.

1.3 Details of the supplier of the safety data sheet:

Refer to Page 1

Section 2: HAZARDS IDENTIFICATION: Capture Wash Buffer**2.1. Classification of the substance or mixture**

Regulation (EC) No 1272/2008: This mixture is classified as not hazardous.

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classified as not a dangerous substance or mixture in accordance with the criteria of Safe Work Australia - Globally Harmonised System (GHS).

2.2. Label elements

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [GHS].

Signal word:

None

Hazard statements:

Not applicable

Precautionary Statements**EU (§28, 1272/2008) & US Regulation:**

Handle in accordance with good industrial hygiene and safety practice

P101 - If medical advice is needed, have product container or label at hand

P273 - Avoid release to the environment

P391 - Collect spillage

P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable

Hazards not otherwise classified (HNOC): Not applicable

2.3. Other hazards

Other hazards: None known

Persistence and degradability: See Section 12 for additional Ecological Information

Other information: 49.3% of the mixture consists of ingredients of unknown toxicity

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS**3.1. Substances**

Not Applicable

3.2. Mixtures

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [GHS]

Chemical name	CAS No	Weight-%
Tris-(hydroxymethyl)aminomethane	77-86-1	0 - 10%

The product contains no substances which at their given concentration, are considered to be hazardous to health

Additional information: No information available

Section 4: FIRST AID MEASURES**4.1. Description of first aid measures**

General advice: Treat symptomatically.

Inhalation: If symptomatic, move to fresh air. If symptoms persist, call a doctor.

Skin Contact: Wash skin with soap and water. Get medical attention if irritation develops and persists.

Eye contact: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

Ingestion: Get medical advice/attention.

Self-protection of the first aider: Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

Most important symptoms and effects, both acute and delayed:

Symptoms: No information available.

Indication of any immediate medical attention and special treatment needed:

Note to physicians: Treat symptomatically.

Section 5: FIRE FIGHTING MEASURES**5.1. Extinguishing media**

Suitable extinguishing media: Water. Water spray (fog). Foam. Dry chemical. Carbon dioxide (CO₂).

Unsuitable extinguishing media: None known.

5.2. Special hazards arising from the substance or mixture

None known.

Hazardous combustion products: Carbon oxides.

Explosion data Sensitivity to Mechanical Impact: None.

Sensitivity to Static Discharge: None.

5.3. Advice for firefighters

In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment as required.

Section 6: ACCIDENTAL RELEASE MEASURES**6.1. Personal precautions, protective equipment and emergency procedures**

Personal precautions: Use personal protective equipment as required.

For emergency responders: Use personal protection recommended in Section 8. Keep unnecessary personnel away.

For non-emergency personnel: Use personal protective equipment as required.

6.2. Environmental precautions

Environmental precautions: Avoid discharge into drains, water courses, or onto the ground. See Section 12 for additional Ecological Information.

6.3. Methods and material for containment and cleaning up

Methods for containment: Prevent further leakage or spillage if safe to do so. Dyke far ahead of liquid spill for later disposal.

Methods for cleaning up: Use personal protective equipment as required. Contain and collect spillage with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see Section 13).

Large spill. Prevent runoff from entering drains, sewers, or streams. Dyke far ahead of liquid spill for later disposal.

Prevention of secondary hazards: Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

See section 13 for more information. See section 8 for more information.

Section 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Advice on safe handling: Use personal protective equipment as required. Ensure adequate ventilation, especially in confined areas.

General Hygiene Considerations: Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions: Keep container tightly closed in a dry and well-ventilated place. Keep/store only in original container. Store away from incompatible materials.

7.3. Specific end use(s)

Specific use(s): reagent.

Risk Management Methods (RMM): The information required is contained in this Material Safety Data Sheet.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Exposure Limits: This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region-specific regulatory bodies.

Derived No Effect Level (DNEL): No information available.

Predicted No Effect Concentration (PNEC): No information available.

8.2. Exposure controls

Engineering Controls: Showers, Eyewash stations, Ventilation systems.

Personal protective equipment:**Eye/face protection:** Wear safety glasses with side shields (or goggles).**Hand Protection:** Wear protective gloves and protective clothing.**Skin and body protection:** Wear chemical-resistant gloves, footwear and protective clothing appropriate for risk of exposure.**Respiratory protection:** No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.**Environmental exposure controls:** Local authorities should be advised if significant spillages cannot be contained.**Section 9: PHYSICAL AND CHEMICAL PROPERTIES****9.1. Information on basic physical and chemical properties:****Physical state:** Liquid**Appearance:** Colourless liquid**Odour:** Odourless**Odour threshold:** No data**Colour:** colourless

Property	Values	Remarks
pH		No Information available
Melting point/freezing point		No information available
Boiling Point		No information available
Flash point		No information available
Evaporation Rate		No information available
Flammability		No information available
Vapour pressure		No information available
Vapour Density		No information available
Specific Gravity		No information available
Water Solubility		No information available
Solubilities		No information available
Partition coefficient		No information available
Autoignition temperature		No information available
Decomposition temperature		No information available
Kinematic viscosity		No information available
Dynamic viscosity		No information available
Explosive properties		No information available
Oxidising properties		No information available

9.2. Other information**Softening point:** No data available**Molecular weight:** No data available**VOC Content (%):** No data available**Density:** No data available**Bulk density:** 1

Section 10: STABILITY AND REACTIVITY**10.1. Reactivity**

The product is stable and non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under recommended storage conditions. Stable under normal conditions.

10.3. Possibility of hazardous reactions

Hazardous polymerization: Hazardous polymerisation does not occur.

Possibility of Hazardous Reactions: None under normal processing.

Hazardous combustion products: No information available.

10.4. Conditions to avoid

None known based on information supplied.

10.5. Incompatible materials

Strong oxidising agents.

10.6. Hazardous decomposition products

None known based on information supplied.

Section 11: TOXICOLOGICAL INFORMATION**11.1. Information on toxicological effects**

Product Information: Low hazard for usual industrial or commercial handling by trained personnel.

Inhalation: Under normal conditions of intended use, this material is not expected to be an inhalation hazard.

Eye contact: Direct contact with eyes may cause temporary irritation.

Skin Contact: Prolonged contact may cause redness and irritation.

Ingestion: No harmful effects expected in amounts likely to be ingested by accident.

Skin corrosion/irritation: Not classified.

Serious eye damage/eye irritation: Not classified.

Sensitisation: Not classified.

Germ cell mutagenicity: Not classified.

Carcinogenicity: Not classifiable as a human carcinogen. This product does not contain any carcinogens as listed by OSHA, IARC or NTP.

Reproductive toxicity: Not classified.

Developmental Toxicity: Not classified.

Teratogenicity: Not classified.

STOT - single exposure: Not classified.

STOT - repeated exposure: Not classified.

Target organ effects: Not classified.

Symptoms: None known.

Aspiration hazard: Not classified.

Section 12: ECOLOGICAL INFORMATION**12.1. Toxicity**

Product Aquatic Toxicity Status; Not considered to be harmful to aquatic life.

Contains 50 % of components with unknown hazards to the aquatic environment.

12.2. Persistence and degradability

Not a PBT or vPvB substance or mixture.

12.3. Bioaccumulative potential

No data available.

12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

Not a PBT or vPvB substance or mixture.

12.6. Other adverse effects

No data available.

Section 13: DISPOSAL CONSIDERATIONS**13.1. Waste treatment methods****Waste from residues/unused products:**

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging:

Do not re-use container. Disposal should be in accordance with applicable regional, national and local laws and regulations.

Waste codes / waste designations according to EWC / AVV:

Waste codes should be assigned by the user based on the application for which the product was used.

Regional, national and local regulations apply.

Other Information:

Waste codes should be assigned by the user based on the application for which the product was used.

Disposal considerations:

Should not be released into the environment This material and its container must be disposed of in a safe way.

Section 14: TRANSPORT INFORMATION**IMDG**

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated

Packing Group: Not regulated

Marine pollutant: Not Applicable

Special Provisions: None

Transport in bulk according to Annex II of MARPOL and the IBC Code : Not applicable

RID

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

Transport in bulk according to Annex II of MARPOL and the IBC Code : Not applicable

ADR

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

Transport in bulk according to Annex II of MARPOL and the IBC Code : Not applicable

ICAO (air)

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

Transport in bulk according to Annex II of MARPOL and the IBC Code : Not applicable

IATA

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

Transport in bulk according to Annex II of MARPOL and the IBC Code : Not applicable

DOT

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

TDG

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

MEX

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated
Packing Group: Not regulated
Environmental hazard: Not Applicable
Special Provisions: None

ADN

UN/ID no: Not regulated
Proper shipping name: Not regulated
Hazard Class: Not regulated
Packing Group: Not regulated
Environmental hazard: Not Applicable
Special Provisions: None

Section 15: REGULATORY INFORMATION**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****European Union:**

Take note of Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values:
Not applicable.

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work: Not applicable.

Take note of Directive 94/33/EC on the protection of young people at work: Not Applicable.

International Inventories:

TSCA: Does not comply
DSL/NDL: Does not comply
EINECS/ELINCS: Complies
ENCS: Does not comply
IECSC: Does not comply
KECL: Does not comply
PICCS: Does not comply
AICS: Does not comply
INSQ: This product complies with INSQ

US Federal Regulations:**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Acute health hazard: No
Chronic Health Hazard: No
Fire hazard: No
Sudden release of pressure hazard: No
Reactive Hazard: No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the

Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

US State Regulations**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

This product does not contain any substances regulated by state right-to-know regulations.

U.S. EPA Label Information

EPA Pesticide Registration Number: Not Applicable.

15.2. Chemical safety assessment

For this substance a chemical safety assessment has not been carried out.

Australian Regulations

See section 8 for national exposure control parameters.

Not classified as a hazardous substance in accordance with the criteria of Safe Work Australia - Globally Harmonised System.

Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP): Classified as a scheduled poison according to the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP)

Poison Schedule Number: 4

Chemical name	Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP)	Poison Schedule Number
Tris-(hydroxymethyl)aminomethane - 77-86-1	4: in preparations for injection except in preparations containing $\leq 3\%$ of Trometamol	4

Section 16: OTHER INFORMATIONFurther information

The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

It remains the user's own responsibility to make sure that the information is appropriate and complete for his specific use of this product. The user is also responsible for observing any laws and applicable guidelines.

1 IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING**1.1** Component identifier

Capture Elution Buffer 1
(Mixture)

1.2 Relevant identified uses of the substance or mixture and uses advised against:

Reagent

Uses advised against: No information available

1.3 Details of the supplier of the safety data sheet:

Refer to Page 1

Section 2: HAZARDS IDENTIFICATION: Capture Elution Buffer 1**2.1. Classification of the substance or mixture**

Regulation (EC) No 1272/2008: This mixture is classified as not hazardous.

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classified as not a dangerous substance or mixture in accordance with the criteria of Safe Work Australia - Globally Harmonised System (GHS).

2.2. Label elements

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [GHS]

Signal word:

None

Hazard statements:

Not applicable

Precautionary Statements**EU (§28, 1272/2008) & US Regulation:**

Handle in accordance with good industrial hygiene and safety practice

P101 - If medical advice is needed, have product container or label at hand

P273 - Avoid release to the environment

P391 - Collect spillage

P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable

Hazards not otherwise classified (HNOC): Not applicable

2.3. Other hazards

Other hazards: None known

Persistence and degradability: See Section 12 for additional Ecological Information

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS**3.1. Substances**

Not Applicable

3.2. Mixtures

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [GHS]

Additional information: No information available

Section 4: FIRST AID MEASURES**4.1. Description of first aid measures**

General advice: Treat symptomatically.

Inhalation: If symptomatic, move to fresh air. If symptoms persist, call a doctor.

Skin Contact: Wash skin with soap and water. Get medical attention if irritation develops and persists.

Eye contact: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

Ingestion: Get medical advice/attention.

Self-protection of the first aider: Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

Most important symptoms and effects, both acute and delayed:

Symptoms: No information available.

Indication of any immediate medical attention and special treatment needed:

Note to physicians: Treat symptomatically.

Section 5: FIRE FIGHTING MEASURES**5.1. Extinguishing media**

Suitable extinguishing media: Water. Water spray (fog). Foam. Dry chemical. Carbon dioxide (CO₂).

Unsuitable extinguishing media: None known

5.2. Special hazards arising from the substance or mixture

None known.

Hazardous combustion products: None known.

Explosion data Sensitivity to Mechanical Impact: None.

Sensitivity to Static Discharge: None

5.3. Advice for firefighters

In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment as required.

Section 6: ACCIDENTAL RELEASE MEASURES**6.1. Personal precautions, protective equipment and emergency procedures**

Personal precautions: Use personal protective equipment as required.

For emergency responders: Use personal protection recommended in Section 8. Keep unnecessary personnel away.

For non-emergency personnel: Use personal protective equipment as required.

6.2. Environmental precautions

Environmental precautions: Avoid discharge into drains, water courses, or onto the ground. See Section 12 for additional Ecological Information.

6.3. Methods and material for containment and cleaning up

Methods for containment: Prevent further leakage or spillage if safe to do so. Dyke far ahead of liquid spill for later disposal.

Methods for cleaning up: Use personal protective equipment as required. Contain and collect spillage with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see Section 13).

Large spill. Prevent runoff from entering drains, sewers, or streams. Dyke far ahead of liquid spill for later disposal.

Prevention of secondary hazards: Clean contaminated objects and areas thoroughly observing environmental regulations

6.4. Reference to other sections

See section 13 for more information. See section 8 for more information.

Section 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Advice on safe handling: Handle in accordance with good industrial hygiene and safety practice. Use personal protective equipment as required.

General Hygiene Considerations: Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions: Keep container tightly closed in a dry and well-ventilated place. Keep/store only in original container. Store away from incompatible materials.

7.3. Specific end use(s)

Specific use(s): reagent.

Risk Management Methods (RMM): The information required is contained in this Material Safety Data Sheet.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Exposure Limits: This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region-specific regulatory bodies.

Derived No Effect Level (DNEL): No information available.

Predicted No Effect Concentration (PNEC): No information available.

8.2. Exposure controls

Engineering Controls: Showers, Eyewash stations, Ventilation systems.

Personal protective equipment:

Eye/face protection: Wear safety glasses with side shields (or goggles).

Hand Protection: Wear protective gloves and protective clothing.

Skin and body protection: Wear chemical-resistant gloves, footwear and protective clothing appropriate for risk of exposure.

Respiratory protection: No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

Environmental exposure controls: Organisational measures to prevent /limit releases, dispersion and exposure. Discharge into the environment must be avoided. Local authorities should be advised if significant spillages cannot be contained.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties:

Physical state: Liquid

Appearance: Colourless liquid

Odour: Odourless

Odour threshold: No data

Colour: colourless

Property	Values	Remarks
pH		No Information available
Melting point/freezing point		No information available
Boiling Point		No information available
Flash point		No information available
Evaporation Rate		No information available
Flammability		No information available
Vapour pressure		No information available
Vapour Density		No information available
Specific Gravity		No information available
Water Solubility		No information available
Solubilities		No information available
Partition coefficient		No information available
Autoignition temperature		No information available
Decomposition temperature		No information available
Kinematic viscosity		No information available
Dynamic viscosity		No information available
Explosive properties		No information available
Oxidising properties		No information available

9.2. Other information

Softening point: No data available

Molecular weight: No data available

VOC Content (%): No data available

Density: No data available

Bulk density: No data available

Section 10: STABILITY AND REACTIVITY**10.1. Reactivity**

The product is stable and non-reactive under normal conditions of use, storage and transport

10.2. Chemical stability

Stable under recommended storage conditions. Stable under normal conditions.

10.3. Possibility of hazardous reactions

Hazardous polymerization: Hazardous polymerisation does not occur.

Possibility of Hazardous Reactions: None under normal processing.

Hazardous combustion products: No information available

10.4. Conditions to avoid

None known based on information supplied.

10.5. Incompatible materials

Strong oxidising agents.

10.6. Hazardous decomposition products

None known based on information supplied.

Section 11: TOXICOLOGICAL INFORMATION**11.1. Information on toxicological effects**

Product Information: Low hazard for usual industrial or commercial handling by trained personnel.

Inhalation: Under normal conditions of intended use, this material is not expected to be an inhalation hazard.

Eye contact: Direct contact with eyes may cause temporary irritation.

Skin Contact: Prolonged contact may cause redness and irritation.

Ingestion: No harmful effects expected in amounts likely to be ingested by accident.

Skin corrosion/irritation: Not classified.

Serious eye damage/eye irritation: Not classified.

Sensitisation: Not classified.

Germ cell mutagenicity: Not classified.

Carcinogenicity: Not classifiable as a human carcinogen. This product does not contain any carcinogens as listed by OSHA, IARC or NTP

Reproductive toxicity: Not classified.

Developmental Toxicity: Not classified.

Teratogenicity: Not classified.

STOT - single exposure: Not classified.

STOT - repeated exposure: Not classified.

Target organ effects: Not classified.

Symptoms: None known.

Aspiration hazard: Not classified.

Unknown acute toxicity: 0.1% of the mixture consists of ingredients of unknown toxicity

Section 12: ECOLOGICAL INFORMATION**12.1. Toxicity**

Product Aquatic Toxicity Status; Not considered to be harmful to aquatic life

Contains 0.2% % of components with unknown hazards to the aquatic environment

12.2. Persistence and degradability

Not a PBT or vPvB substance or mixture.

12.3. Bioaccumulative potential

No data available.

12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

Not a PBT or vPvB substance or mixture.

12.6. Other adverse effects

No data available

Section 13: DISPOSAL CONSIDERATIONS**13.1. Waste treatment methods****Waste from residues/unused products:**

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging:

Do not re-use container. Disposal should be in accordance with applicable regional, national and local laws and regulations.

Waste codes / waste designations according to EWC / AVV:

Waste codes should be assigned by the user based on the application for which the product was used.

Regional, national and local regulations apply.

Other Information:

Waste codes should be assigned by the user based on the application for which the product was used.

Disposal considerations:

Should not be released into the environment This material and its container must be disposed of in a safe way

Section 14: TRANSPORT INFORMATION**IMDG**

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated

Packing Group: Not regulated

Marine pollutant: Not Applicable

Special Provisions: None

Transport in bulk according to Annex II of MARPOL and the IBC Code : Not applicable

RID

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

Transport in bulk according to Annex II of MARPOL and the IBC Code : Not applicable

ADR

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

Transport in bulk according to Annex II of MARPOL and the IBC Code : Not applicable

ICAO (air)

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

Transport in bulk according to Annex II of MARPOL and the IBC Code : Not applicable

IATA

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

Transport in bulk according to Annex II of MARPOL and the IBC Code : Not applicable

DOT

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

TDG

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

MEX

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated
Packing Group: Not regulated
Environmental hazard: Not Applicable
Special Provisions: None

ADN

UN/ID no: Not regulated
Proper shipping name: Not regulated
Hazard Class: Not regulated
Packing Group: Not regulated
Environmental hazard: Not Applicable
Special Provisions: None

Section 15: REGULATORY INFORMATION**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****European Union:**

Take note of Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values:
Not applicable

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work: Not applicable

Take note of Directive 94/33/EC on the protection of young people at work: Not Applicable.

Take note of Directive 92/85/EC on the protection of pregnant and breastfeeding women at work: Not applicable

International Inventories:

TSCA: Complies

DSL/NDSL: Complies

EINECS/ELINCS: Complies

ENCS: Does not comply

IECSC: Complies

KECL: Complies

PICCS: Complies

AICS: Complies

INSQ: This product complies with INSQ

US Federal Regulations:**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories

Acute health hazard: No

Chronic Health Hazard: No

Fire hazard: No

Sudden release of pressure hazard: No

Reactive Hazard: No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

US State Regulations**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Water 7732-18-5	-	-	X

U.S. EPA Label Information

EPA Pesticide Registration Number: Not Applicable

15.2. Chemical safety assessment

For this substance a chemical safety assessment has not been carried out

Australian Regulations

See section 8 for national exposure control parameters.

Not classified as a hazardous substance in accordance with the criteria of Safe Work Australia - Globally Harmonised System.

Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP): No poisons schedule number allocated.

Section 16: OTHER INFORMATIONFurther information

The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

It remains the user's own responsibility to make sure that the information is appropriate and complete for his specific use of this product. The user is also responsible for observing any laws and applicable guidelines.

1 IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING**1.1 Component identifier**

Resuspension Buffer
(Mixture)

1.2 Relevant identified uses of the substance or mixture and uses advised against:

Reagent

Uses advised against: No information available

1.3 Details of the supplier of the safety data sheet:

Refer to Page 1

Section 2: HAZARDS IDENTIFICATION: Resuspension Buffer**2.1. Classification of the substance or mixture**

Regulation (EC) No 1272/2008: This mixture is classified as not hazardous.

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classified as not a dangerous substance or mixture in accordance with the criteria of Safe Work Australia - Globally Harmonised System (GHS).

2.2. Label elements

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [GHS]

Signal word:

None

Hazard statements:

Not applicable

Precautionary Statements**EU (§28, 1272/2008) & US Regulation:**

Handle in accordance with good industrial hygiene and safety practice

P101 - If medical advice is needed, have product container or label at hand

P273 - Avoid release to the environment

P391 - Collect spillage

P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable

Hazards not otherwise classified (HNOC): Not applicable

2.3. Other hazards

Other hazards: None known

Persistence and degradability: See Section 12 for additional Ecological Information

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS**3.1. Substances**

Not Applicable

3.2. Mixtures

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [GHS]

Additional information: No information available

Section 4: FIRST AID MEASURES**4.1. Description of first aid measures**

General advice: Treat symptomatically.

Inhalation: If symptomatic, move to fresh air. If symptoms persist, call a doctor.

Skin Contact: Wash skin with soap and water. Get medical attention if irritation develops and persists.

Eye contact: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

Ingestion: Get medical advice/attention.

Self-protection of the first aider: Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

Most important symptoms and effects, both acute and delayed:

Symptoms: No information available.

Indication of any immediate medical attention and special treatment needed:

Note to physicians: Treat symptomatically.

Section 5: FIRE FIGHTING MEASURES**5.1. Extinguishing media**

Suitable extinguishing media: Water. Water spray (fog). Foam. Dry chemical. Carbon dioxide (CO₂).

Unsuitable extinguishing media: None known

5.2. Special hazards arising from the substance or mixture

None known.

Hazardous combustion products: None known.

Explosion data Sensitivity to Mechanical Impact: None.

Sensitivity to Static Discharge: None

5.3. Advice for firefighters

In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment as required.

Section 6: ACCIDENTAL RELEASE MEASURES**6.1. Personal precautions, protective equipment and emergency procedures**

Personal precautions: Use personal protective equipment as required.

For emergency responders: Use personal protection recommended in Section 8. Keep unnecessary personnel away.

For non-emergency personnel: Use personal protective equipment as required.

6.2. Environmental precautions

Environmental precautions: See Section 12 for additional Ecological Information.

6.3. Methods and material for containment and cleaning up

Methods for containment: Prevent further leakage or spillage if safe to do so. Dyke far ahead of liquid spill for later disposal.

Methods for cleaning up: Use personal protective equipment as required. Contain and collect spillage with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see Section 13).

Large spill. Prevent runoff from entering drains, sewers, or streams. Dyke far ahead of liquid spill for later disposal.

Prevention of secondary hazards: Clean contaminated objects and areas thoroughly observing environmental regulations

6.4. Reference to other sections

See section 13 for more information. See section 8 for more information.

Section 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Advice on safe handling: Handle in accordance with good industrial hygiene and safety practice. Use personal protective equipment as required.

General Hygiene Considerations: Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions: Keep container tightly closed in a dry and well-ventilated place. Keep/store only in original container. Store away from incompatible materials.

7.3. Specific end use(s)

Specific use(s): reagent.

Risk Management Methods (RMM): The information required is contained in this Material Safety Data Sheet.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Exposure Limits: This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region-specific regulatory bodies.

Derived No Effect Level (DNEL): No information available.

Predicted No Effect Concentration (PNEC): No information available.

8.2. Exposure controls

Engineering Controls: Showers, Eyewash stations, Ventilation systems.

Personal protective equipment:

Eye/face protection: Wear safety glasses with side shields (or goggles).

Hand Protection: Wear protective gloves and protective clothing.

Skin and body protection: Wear chemical-resistant gloves, footwear and protective clothing appropriate for risk of exposure.

Respiratory protection: No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

Environmental exposure controls: Organisational measures to prevent /limit releases, dispersion and exposure. Discharge into the environment must be avoided. Local authorities should be advised if significant spillages cannot be contained.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES
9.1. Information on basic physical and chemical properties:

Physical state: Liquid

Appearance: Colourless liquid

Odour: Odourless

Odour threshold: No data

Colour: colourless

Property	Values	Remarks
pH	8.5	
Melting point/freezing point		No information available
Boiling Point		No information available
Flash point		No information available
Evaporation Rate		No information available
Flammability		No information available
Vapour pressure		No information available
Vapour Density		No information available
Specific Gravity		No information available
Water Solubility		No information available
Solubilities		No information available
Partition coefficient		No information available
Autoignition temperature		No information available
Decomposition temperature		No information available
Kinematic viscosity		No information available
Dynamic viscosity		No information available
Explosive properties		No information available
Oxidising properties		No information available

9.2. Other information

Softening point: No data available

Molecular weight: No data available

VOC Content (%): No data available

Density: No data available

Bulk density: No data available

Section 10: STABILITY AND REACTIVITY**10.1. Reactivity**

The product is stable and non-reactive under normal conditions of use, storage and transport

10.2. Chemical stability

Stable under recommended storage conditions. Stable under normal conditions.

10.3. Possibility of hazardous reactions

Hazardous polymerization: Hazardous polymerisation does not occur.

Possibility of Hazardous Reactions: None under normal processing.

Hazardous combustion products: No information available

10.4. Conditions to avoid

None known based on information supplied.

10.5. Incompatible materials

Strong oxidising agents.

10.6. Hazardous decomposition products

None known based on information supplied.

Section 11: TOXICOLOGICAL INFORMATION**11.1. Information on toxicological effects**

Product Information: Low hazard for usual industrial or commercial handling by trained personnel.

Inhalation: Under normal conditions of intended use, this material is not expected to be an inhalation hazard.

Eye contact: Direct contact with eyes may cause temporary irritation.

Skin Contact: Prolonged contact may cause redness and irritation.

Ingestion: No harmful effects expected in amounts likely to be ingested by accident.

Skin corrosion/irritation: Not classified.

Serious eye damage/eye irritation: Not classified.

Sensitisation: Not classified.

Germ cell mutagenicity: Not classified.

Carcinogenicity: Not classifiable as a human carcinogen. This product does not contain any carcinogens as listed by OSHA, IARC or NTP

Reproductive toxicity: Not classified.

Developmental Toxicity: Not classified.

Teratogenicity: Not classified.

STOT - single exposure: Not classified.

STOT - repeated exposure: Not classified.

Target organ effects: Not classified.

Symptoms: None known.

Aspiration hazard: Not classified.

Unknown acute toxicity: 1% of the mixture consists of ingredients of unknown toxicity

Section 12: ECOLOGICAL INFORMATION**12.1. Toxicity**

Product Aquatic Toxicity Status; Not considered to be harmful to aquatic life

Contains 1% % of components with unknown hazards to the aquatic environment

12.2. Persistence and degradability

Not a PBT or vPvB substance or mixture.

12.3. Bioaccumulative potential

No data available.

12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

Not a PBT or vPvB substance or mixture.

12.6. Other adverse effects

No data available

Section 13: DISPOSAL CONSIDERATIONS**13.1. Waste treatment methods****Waste from residues/unused products:**

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging:

Do not re-use container. Disposal should be in accordance with applicable regional, national and local laws and regulations.

Waste codes / waste designations according to EWC / AVV:

Waste codes should be assigned by the user based on the application for which the product was used.

Regional, national and local regulations apply.

Other Information:

Waste codes should be assigned by the user based on the application for which the product was used.

Disposal considerations:

Should not be released into the environment This material and its container must be disposed of in a safe way

Section 14: TRANSPORT INFORMATION**IMDG**

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated

Packing Group: Not regulated

Marine pollutant: Not Applicable

Special Provisions: None

Transport in bulk according to Annex II of MARPOL and the IBC Code : Not applicable

RID

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

Transport in bulk according to Annex II of MARPOL and the IBC Code : Not applicable

ADR

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

Transport in bulk according to Annex II of MARPOL and the IBC Code : Not applicable

ICAO (air)

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

Transport in bulk according to Annex II of MARPOL and the IBC Code : Not applicable

IATA

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

Transport in bulk according to Annex II of MARPOL and the IBC Code : Not applicable

DOT

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

TDG

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

MEX

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated
Packing Group: Not regulated
Environmental hazard: Not Applicable
Special Provisions: None

ADN

UN/ID no: Not regulated
Proper shipping name: Not regulated
Hazard Class: Not regulated
Packing Group: Not regulated
Environmental hazard: Not Applicable
Special Provisions: None

Section 15: REGULATORY INFORMATION**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****European Union:**

Take note of Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values:
Not applicable

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work: Not applicable

Take note of Directive 94/33/EC on the protection of young people at work: Not Applicable.

Take note of Directive 92/85/EC on the protection of pregnant and breastfeeding women at work: Not applicable

International Inventories:

TSCA: Complies

DSL/NDL: Complies

EINECS/ELINCS: Complies

ENCS: Does not comply

IECSC: Complies

KECL: Complies

PICCS: Complies

AICS: Complies

INSQ: This product complies with INSQ

US Federal Regulations:**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories

Acute health hazard: No

Chronic Health Hazard: No

Fire hazard: No

Sudden release of pressure hazard: No

Reactive Hazard: No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

US State Regulations**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Water 7732-18-5	-	-	X

U.S. EPA Label Information

EPA Pesticide Registration Number: Not Applicable

15.2. Chemical safety assessment

For this substance a chemical safety assessment has not been carried out

Australian Regulations

See section 8 for national exposure control parameters.

Not classified as a hazardous substance in accordance with the criteria of Safe Work Australia - Globally Harmonised System.

Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP): No poisons schedule number allocated.

Section 16: OTHER INFORMATIONFurther information

The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

It remains the user's own responsibility to make sure that the information is appropriate and complete for his specific use of this product. The user is also responsible for observing any laws and applicable guidelines.

1 IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING**1.1 Product identifier**

Hybridisation Buffer 2
(Mixture)

1.2 Relevant identified uses of the substance or mixture and uses advised against:

Reagent

Uses advised against: No information available

1.3 Details of the supplier of the safety data sheet:

Refer Page 1

Section 2: HAZARDS IDENTIFICATION: Hybridisation Buffer 2**2.1. Classification of the substance or mixture**

Regulation (EC) No 1272/2008: This mixture is classified as not hazardous.

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classified as not a dangerous substance or mixture in accordance with the criteria of Safe Work Australia - Globally Harmonised System (GHS).

2.2. Label elements

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [GHS]

Signal word:

None

Hazard statements:

Not applicable

Precautionary Statements**EU (§28, 1272/2008) & US Regulation:**

Handle in accordance with good industrial hygiene and safety practice

P101 - If medical advice is needed, have product container or label at hand

Hazards not otherwise classified (HNOC): Not applicable

2.3. Other hazards

Other hazards: None known

Persistence and degradability: See Section 12 for additional Ecological Information

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS**3.1. Substances**

Not Applicable

3.2. Mixtures

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [GHS]

Additional information: No information available

Section 4: FIRST AID MEASURES**4.1. Description of first aid measures**

General advice: Treat symptomatically.

Inhalation: If symptomatic, move to fresh air. If symptoms persist, call a doctor.

Skin Contact: Wash skin with soap and water. Get medical attention if irritation develops and persists.

Eye contact: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

Ingestion: Get medical advice/attention.

Self-protection of the first aider: Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

Most important symptoms and effects, both acute and delayed:

Symptoms: No information available.

Indication of any immediate medical attention and special treatment needed:

Note to physicians: Treat symptomatically.

Section 5: FIRE FIGHTING MEASURES**5.1. Extinguishing media**

Suitable extinguishing media: Water. Water spray (fog). Foam. Dry chemical. Carbon dioxide (CO₂).

Unsuitable extinguishing media: None known

5.2. Special hazards arising from the substance or mixture

None known.

Hazardous combustion products: None known.

Explosion data Sensitivity to Mechanical Impact: None.

Sensitivity to Static Discharge: None

5.3. Advice for firefighters

In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment as required.

Section 6: ACCIDENTAL RELEASE MEASURES**6.1. Personal precautions, protective equipment and emergency procedures**

Personal precautions: Use personal protective equipment as required.

For emergency responders: Use personal protection recommended in Section 8. Keep unnecessary personnel away.

For non-emergency personnel: Use personal protective equipment as required.

6.2. Environmental precautions

Environmental precautions: See Section 12 for additional Ecological Information.

6.3. Methods and material for containment and cleaning up

Methods for containment: Prevent further leakage or spillage if safe to do so. Dyke far ahead of liquid spill for later disposal.

Methods for cleaning up: Use personal protective equipment as required. Contain and collect spillage with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see Section 13).

Large spill. Prevent runoff from entering drains, sewers, or streams. Dyke far ahead of liquid spill for later disposal.

Prevention of secondary hazards: Clean contaminated objects and areas thoroughly observing environmental regulations

6.4. Reference to other sections

See section 13 for more information. See section 8 for more information.

Section 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Advice on safe handling: Handle in accordance with good industrial hygiene and safety practice. Use personal protective equipment as required.

General Hygiene Considerations: Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions: Keep container tightly closed in a dry and well-ventilated place. Keep/store only in original container. Store away from incompatible materials.

7.3. Specific end use(s)

Specific use(s): reagent.

Risk Management Methods (RMM): The information required is contained in this Material Safety Data Sheet.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Exposure Limits: This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region-specific regulatory bodies.

Derived No Effect Level (DNEL): No information available.

Predicted No Effect Concentration (PNEC): No information available.

8.2. Exposure controls

Engineering Controls: Showers, Eyewash stations, Ventilation systems.

Personal protective equipment:

Eye/face protection: Wear safety glasses with side shields (or goggles).

Hand Protection: Wear protective gloves and protective clothing.

Skin and body protection: Wear chemical-resistant gloves, footwear and protective clothing appropriate for risk of exposure.

Respiratory protection: No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

Environmental exposure controls: Organisational measures to prevent /limit releases, dispersion and exposure. Discharge into the environment must be avoided. Local authorities should be advised if significant spillages cannot be contained.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES
9.1. Information on basic physical and chemical properties:

Physical state: Liquid

Appearance: Colourless liquid

Odour: Odourless

Odour threshold: No data

Colour: colourless

Property	Values	Remarks
pH		No information available
Melting point/freezing point		No information available
Boiling Point		No information available
Flash point		No information available
Evaporation Rate		No information available
Flammability		No information available
Vapour pressure		No information available
Vapour Density		No information available
Specific Gravity		No information available
Water Solubility		No information available
Solubilities		No information available
Partition coefficient		No information available
Autoignition temperature		No information available
Decomposition temperature		No information available
Kinematic viscosity		No information available
Dynamic viscosity		No information available
Explosive properties		No information available
Oxidising properties		No information available

9.2. Other information

Softening point: No data available

Molecular weight: No data available

VOC Content (%): No data available

Density: No data available

Bulk density: No data available

Section 10: STABILITY AND REACTIVITY
10.1. Reactivity

The product is stable and non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under recommended storage conditions. Stable under normal conditions.

10.3. Possibility of hazardous reactions

Hazardous polymerization: Hazardous polymerisation does not occur.

Possibility of Hazardous Reactions: None under normal processing.

Hazardous combustion products: No information available.

10.4. Conditions to avoid

None known based on information supplied.

10.5. Incompatible materials

Strong oxidising agents.

10.6. Hazardous decomposition products

None known based on information supplied.

Section 11: TOXICOLOGICAL INFORMATION**11.1. Information on toxicological effects**

Product Information: Low hazard for usual industrial or commercial handling by trained personnel.

Inhalation: Under normal conditions of intended use, this material is not expected to be an inhalation hazard.

Eye contact: Direct contact with eyes may cause temporary irritation.

Skin Contact: Prolonged contact may cause redness and irritation.

Ingestion: No harmful effects expected in amounts likely to be ingested by accident.

Skin corrosion/irritation: Not classified.

Serious eye damage/eye irritation: Not classified.

Sensitisation: Not classified.

Germ cell mutagenicity: Not classified.

Carcinogenicity: Not classifiable as a human carcinogen. This product does not contain any carcinogens as listed by OSHA, IARC or NTP

Reproductive toxicity: Not classified.

Developmental Toxicity: Not classified.

Teratogenicity: Not classified.

STOT - single exposure: Not classified.

STOT - repeated exposure: Not classified.

Target organ effects: Not classified.

Symptoms: None known.

Aspiration hazard: Not classified.

Unknown acute toxicity: 9.3% of the mixture consists of ingredients of unknown toxicity

Section 12: ECOLOGICAL INFORMATION**12.1. Toxicity**

Product Aquatic Toxicity Status; Not considered to be harmful to aquatic life

94.4% of the mixture consists of components of unknown hazards to the aquatic environment

12.2. Persistence and degradability

Not a PBT or vPvB substance or mixture.

12.3. Bioaccumulative potential

No data available.

12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

Not a PBT or vPvB substance or mixture.

12.6. Other adverse effects

No data available

Section 13: DISPOSAL CONSIDERATIONS**13.1. Waste treatment methods****Waste from residues/unused products:**

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging:

Do not re-use container. Disposal should be in accordance with applicable regional, national and local laws and regulations.

Waste codes / waste designations according to EWC / AVV:

Waste codes should be assigned by the user based on the application for which the product was used.

Regional, national and local regulations apply.

Other Information:

Waste codes should be assigned by the user based on the application for which the product was used.

Disposal considerations:

Should not be released into the environment. This material and its container must be disposed of in a safe way

Section 14: TRANSPORT INFORMATION**IMDG**

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated

Packing Group: Not regulated

Marine pollutant: Not Applicable

Special Provisions: None

Transport in bulk according to Annex II of MARPOL and the IBC Code : Not applicable

RID

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

Transport in bulk according to Annex II of MARPOL and the IBC Code : Not applicable

ADR

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

Transport in bulk according to Annex II of MARPOL and the IBC Code : Not applicable

ICAO (air)

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

Transport in bulk according to Annex II of MARPOL and the IBC Code : Not applicable

IATA

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

Transport in bulk according to Annex II of MARPOL and the IBC Code : Not applicable

DOT

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

TDG

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

MEX

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

ADN

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

Section 15: REGULATORY INFORMATION**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****European Union:**

Take note of Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values:

Not applicable

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work: Not applicable

Take note of Directive 94/33/EC on the protection of young people at work: Not Applicable.

International Inventories:

TSCA: complies

DSL/NDSL: complies

EINECS/ELINCS: complies

ENCS: Does not comply

IECSC: complies

KECL: complies

PICCS: complies

AICS: complies

US Federal Regulations:**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories

Acute health hazard: No

Chronic Health Hazard: No

Fire hazard: No

Sudden release of pressure hazard: No

Reactive Hazard: No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

US State Regulations**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

This product does not contain any substances regulated by state right-to-know regulations.

U.S. EPA Label Information

EPA Pesticide Registration Number: Not Applicable

15.2. Chemical safety assessment

For this substance a chemical safety assessment has not been carried out

Australian Regulations

See section 8 for national exposure control parameters.

Not classified as a hazardous substance in accordance with the criteria of Safe Work Australia - Globally Harmonised System.

Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP): No poisons schedule number allocated.

Section 16: OTHER INFORMATIONFurther information

The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

It remains the user's own responsibility to make sure that the information is appropriate and complete for his specific use of this product. The user is also responsible for observing any laws and applicable guidelines.

1 IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING**1.1** Component identifier

Capture Elution Buffer 2
(Mixture)

1.2 Relevant identified uses of the substance or mixture and uses advised against:

Reagent

Uses advised against: No information available

1.3 Details of the supplier of the safety data sheet:

Refer to Page 1

Section 2: HAZARDS IDENTIFICATION: Capture Elution Buffer 2**2.1. Classification of the substance or mixture**

Regulation (EC) No 1272/2008: This mixture is classified as not hazardous.

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classified as not a dangerous substance or mixture in accordance with the criteria of Safe Work Australia - Globally Harmonised System (GHS).

2.2. Label elements

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [GHS]

Signal word:

None

Hazard statements:

Not applicable

Precautionary Statements**EU (§28, 1272/2008) & US Regulation:**

Handle in accordance with good industrial hygiene and safety practice

P101 - If medical advice is needed, have product container or label at hand

P273 - Avoid release to the environment

P391 - Collect spillage

P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable

Hazards not otherwise classified (HNOC): Not applicable

2.3. Other hazards

Other hazards: None known

Persistence and degradability: See Section 12 for additional Ecological Information

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS**3.1. Substances**

Not Applicable

3.2. Mixtures

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [GHS]

Additional information: No information available

Section 4: FIRST AID MEASURES**4.1. Description of first aid measures**

General advice: Use first aid treatment according to the nature of the injury.

Inhalation: If symptomatic, move to fresh air. If symptoms persist, call a doctor.

Skin Contact: Wash skin with soap and water. Get medical attention if irritation develops and persists.

Eye contact: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

Ingestion: Get medical advice/attention.

Self-protection of the first aider: Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

Most important symptoms and effects, both acute and delayed:

Symptoms: No information available.

Indication of any immediate medical attention and special treatment needed:

Note to physicians: Treat symptomatically.

Section 5: FIRE FIGHTING MEASURES**5.1. Extinguishing media**

Suitable extinguishing media: Water. Water spray (fog). Foam. Dry chemical. Carbon dioxide (CO₂).

Unsuitable extinguishing media: None known

5.2. Special hazards arising from the substance or mixture

None known.

Hazardous combustion products: None known.

Explosion data Sensitivity to Mechanical Impact: None.

Sensitivity to Static Discharge: None

5.3. Advice for firefighters

In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment as required.

Section 6: ACCIDENTAL RELEASE MEASURES**6.1. Personal precautions, protective equipment and emergency procedures**

Personal precautions: Use personal protective equipment as required.

For emergency responders: Use personal protection recommended in Section 8. Keep unnecessary personnel away.

For non-emergency personnel: Use personal protective equipment as required.

6.2. Environmental precautions

Environmental precautions: See Section 12 for additional Ecological Information.

6.3. Methods and material for containment and cleaning up

Methods for containment: Prevent further leakage or spillage if safe to do so. Dyke far ahead of liquid spill for later disposal.

Methods for cleaning up: Use personal protective equipment as required. Contain and collect spillage with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see Section 13).

Large spill. Prevent runoff from entering drains, sewers, or streams. Dyke far ahead of liquid spill for later disposal.

Prevention of secondary hazards: Clean contaminated objects and areas thoroughly observing environmental regulations

6.4. Reference to other sections

See section 13 for more information. See section 8 for more information.

Section 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Advice on safe handling: Handle in accordance with good industrial hygiene and safety practice. Use personal protective equipment as required.

General Hygiene Considerations: Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions: Keep container tightly closed in a dry and well-ventilated place. Keep/store only in original container. Store away from incompatible materials.

7.3. Specific end use(s)

Specific use(s): reagent.

Risk Management Methods (RMM): The information required is contained in this Material Safety Data Sheet.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Exposure Limits: This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region-specific regulatory bodies.

Derived No Effect Level (DNEL): No information available.

Predicted No Effect Concentration (PNEC): No information available.

8.2. Exposure controls

Engineering Controls: Showers, Eyewash stations, Ventilation systems.

Personal protective equipment:

Eye/face protection: Wear safety glasses with side shields (or goggles).

Hand Protection: Wear protective gloves and protective clothing.

Skin and body protection: Wear chemical-resistant gloves, footwear and protective clothing appropriate for risk of exposure.

Respiratory protection: No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

Environmental exposure controls: Organisational measures to prevent /limit releases, dispersion and exposure. Discharge into the environment must be avoided. Local authorities should be advised if significant spillages cannot be contained.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties:

Physical state: Liquid

Appearance: Colourless liquid

Odour: Odourless

Odour threshold: No data

Colour: colourless

Property	Values	Remarks
pH		No information available
Melting point/freezing point		No information available
Boiling Point		No information available
Flash point		No information available
Evaporation Rate		No information available
Flammability		No information available
Vapour pressure		No information available
Vapour Density		No information available
Specific Gravity		No information available
Water Solubility		No information available
Solubilities		No information available
Partition coefficient		No information available
Autoignition temperature		No information available
Decomposition temperature		No information available
Kinematic viscosity		No information available
Dynamic viscosity		No information available
Explosive properties		No information available
Oxidising properties		No information available

9.2. Other information

Softening point: No data available

Molecular weight: No data available

VOC Content (%): No data available

Density: No data available

Bulk density: No data available

Section 10: STABILITY AND REACTIVITY**10.1. Reactivity**

The product is stable and non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under recommended storage conditions. Stable under normal conditions.

10.3. Possibility of hazardous reactions

Hazardous polymerization: Hazardous polymerisation does not occur.

Possibility of Hazardous Reactions: None under normal processing.

Hazardous combustion products: No information available.

10.4. Conditions to avoid

None known based on information supplied.

10.5. Incompatible materials

Strong oxidising agents.

10.6. Hazardous decomposition products

None known based on information supplied.

Section 11: TOXICOLOGICAL INFORMATION**11.1. Information on toxicological effects**

Product Information: Low hazard for usual industrial or commercial handling by trained personnel.

Inhalation: Under normal conditions of intended use, this material is not expected to be an inhalation hazard.

Eye contact: Direct contact with eyes may cause temporary irritation.

Skin Contact: Prolonged contact may cause redness and irritation.

Ingestion: No harmful effects expected in amounts likely to be ingested by accident.

Skin corrosion/irritation: Not classified.

Serious eye damage/eye irritation: Not classified.

Sensitisation: Not classified.

Germ cell mutagenicity: Not classified.

Carcinogenicity: Not classifiable as a human carcinogen. This product does not contain any carcinogens as listed by OSHA, IARC or NTP

Reproductive toxicity: Not classified.

Developmental Toxicity: Not classified.

Teratogenicity: Not classified.

STOT - single exposure: Not classified.

STOT - repeated exposure: Not classified.

Target organ effects: Not classified.

Symptoms: None known.

Aspiration hazard: Not classified.

Unknown acute toxicity: 15.9% of the mixture consists of ingredients of unknown toxicity

Section 12: ECOLOGICAL INFORMATION**12.1. Toxicity**

Product Aquatic Toxicity Status; Not considered to be harmful to aquatic life

16.3% of the mixture consists of components of unknown hazards to the aquatic environment

12.2. Persistence and degradability

Not a PBT or vPvB substance or mixture.

12.3. Bioaccumulative potential

No data available.

12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

Not a PBT or vPvB substance or mixture.

12.6. Other adverse effects

No data available

Section 13: DISPOSAL CONSIDERATIONS**13.1. Waste treatment methods****Waste from residues/unused products:**

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging:

Do not re-use container. Disposal should be in accordance with applicable regional, national and local laws and regulations.

Waste codes / waste designations according to EWC / AVV:

Waste codes should be assigned by the user based on the application for which the product was used.

Regional, national and local regulations apply.

Other Information:

Waste codes should be assigned by the user based on the application for which the product was used.

Disposal considerations:

Should not be released into the environment. This material and its container must be disposed of in a safe way

Section 14: TRANSPORT INFORMATION**IMDG**

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated

Packing Group: Not regulated

Marine pollutant: Not Applicable

Special Provisions: None

Transport in bulk according to Annex II of MARPOL and the IBC Code : Not applicable

RID

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

Transport in bulk according to Annex II of MARPOL and the IBC Code : Not applicable

ADR

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

Transport in bulk according to Annex II of MARPOL and the IBC Code : Not applicable

ICAO (air)

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

Transport in bulk according to Annex II of MARPOL and the IBC Code : Not applicable

IATA

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

Transport in bulk according to Annex II of MARPOL and the IBC Code : Not applicable

DOT

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

TDG

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

MEX

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated
Packing Group: Not regulated
Environmental hazard: Not Applicable
Special Provisions: None

ADN

UN/ID no: Not regulated
Proper shipping name: Not regulated
Hazard Class: Not regulated
Packing Group: Not regulated
Environmental hazard: Not Applicable
Special Provisions: None

Section 15: REGULATORY INFORMATION**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****European Union:**

Take note of Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values:
Not applicable

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work: Not applicable

Take note of Directive 94/33/EC on the protection of young people at work: Not Applicable.

Take note of Directive 92/85/EC on the protection of pregnant and breastfeeding women at work: Not applicable

International Inventories:

TSCA: complies
DSL/NDL: complies
EINECS/ELINCS: complies
ENCS: Does not comply
IECSC: Does not comply
KECL: Does not comply
PICCS: complies
AICS: Does not comply
INSQ: This product complies with INSQ

US Federal Regulations:**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories

Acute health hazard: No
Chronic Health Hazard: No
Fire hazard: No
Sudden release of pressure hazard: No
Reactive Hazard: No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

US State Regulations**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Water 7732-18-5	-	-	X

U.S. EPA Label Information

EPA Pesticide Registration Number: Not Applicable

15.2. Chemical safety assessment

For this substance a chemical safety assessment has not been carried out

Australian Regulations

See section 8 for national exposure control parameters.

Not classified as a hazardous substance in accordance with the criteria of Safe Work Australia - Globally Harmonised System.

Classified as a scheduled poison according to the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP)

Poison schedule number: 4

Section 16: OTHER INFORMATIONFurther information

The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

It remains the user's own responsibility to make sure that the information is appropriate and complete for his specific use of this product. The user is also responsible for observing any laws and applicable guidelines.

1 IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING**1.1** Component identifier:

Stop Buffer
(Mixture; Contains Sodium Lauryl Sulfate)

1.2 Relevant identified uses of the substance or mixture and uses advised against:

Reagent.

Uses advised against: No information available.

1.3 Details of the supplier of the safety data sheet:

Refer to page 1

Section 2: HAZARDS IDENTIFICATION: STOP BUFFER**2.1. Classification of the substance or mixture**

Regulation (EC) No 1272/2008: This mixture is classified as hazardous.

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classified as a hazardous substance in accordance with the criteria of Safe Work Australia - Globally Harmonised System (GHS).

Serious eye damage/eye irritation	Category 2A – (H319)
-----------------------------------	----------------------

2.2. Label elements**Signal word:**

Warning

Hazard statements:

H319 – Causes serious eye irritation

Precautionary Statements**EU (§28, 1272/2008) & US Regulation:**

P264 - Wash face, hands and any exposed skin thoroughly after handling

P280 - Wear protective gloves/protective clothing/eye protection/face protection

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if

present and easy to do. Continue rinsing
 P337 + P313 - If eye irritation persists: Get medical advice/attention

Hazards not otherwise classified (HNOC): Not applicable

Unknown acute toxicity: 1% of the mixture consists of ingredient(s) of unknown toxicity

2.3. Other hazards

Other hazards: Causes mild skin irritation

Persistence and degradability: See Section 12 for additional Ecological Information.

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

Not Applicable.

3.2. Mixtures

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [CLP].

Chemical name	EC No	CAS No	Weight - %	Classification according to Regulation (EC) No. 1272/2008
Sodium lauryl sulfate	205-788-1	151-21-3	1-5	Acute Tox. 4 (H302) Skin Irrit. 2 (H315) Eye Dam. 1 (H318) STOT SE 3 (H336) Aquatic Acute 2 (H401) Aquatic Chronic 2 (H411)

Additional information: No information available.

Section 4: FIRST AID MEASURES

4.1. Description of first aid measures

General advice: Use first aid treatment according to the nature of the injury

Inhalation: If symptomatic, move to fresh air. If symptoms persist, call a doctor

Skin Contact: Wash skin with soap and water. Get medical attention if irritation develops and persists

Eye contact: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists..

Ingestion: Get medical advice/attention.

Self-protection of the first aider: Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

Most important symptoms and effects, both acute and delayed:

Symptoms: No information available.

Indication of any immediate medical attention and special treatment needed:

Note to physicians: Treat symptomatically.

Section 5: FIRE FIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media: Water. Water spray (fog). Foam. Dry chemical. Carbon dioxide (CO2).

Unsuitable extinguishing media: None known.

5.2. Special hazards arising from the substance or mixture

None known.

Hazardous combustion products: No information available.

Explosion data Sensitivity to Mechanical Impact: None.

Sensitivity to Static Discharge: None.

5.3. Advice for firefighters

In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment as required.

Section 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions: Use personal protective equipment as required.

For emergency responders: Use personal protection recommended in Section 8. Keep unnecessary personnel away.

For non-emergency personnel: Use personal protective equipment as required.

6.2. Environmental precautions

Environmental precautions: Avoid discharge into drains, water courses, or onto the ground. See Section 12 for additional Ecological Information.

6.3. Methods and material for containment and cleaning up

Methods for containment: Prevent further leakage or spillage if safe to do so. Dyke far ahead of liquid spill for later disposal.

Methods for cleaning up: Cover liquid spill with sand, earth or other non-combustible absorbent material. Cover powder spill with plastic sheet or tarp to minimise spreading. Pick up and transfer to properly labelled containers.

Prevention of secondary hazards: Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

See section 13 for more information. See section 8 for more information.

Section 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Advice on safe handling: Handle in accordance with good industrial hygiene and safety practice. Use personal protective equipment as required.

General Hygiene Considerations: Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions: Keep container tightly closed in a dry and well-ventilated place. Keep/store only in original container. Store away from incompatible materials.

7.3. Specific end use(s)

Specific use(s): reagent.

Risk Management Methods (RMM): The information required is contained in this Safety Data Sheet.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Exposure Limits: This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region-specific regulatory bodies.

Derived No Effect Level (DNEL): No information available.

Predicted No Effect Concentration (PNEC): No information available.

8.2. Exposure controls

Engineering Controls: Showers, Eyewash stations, Ventilation systems.

Personal protective equipment:

Eye/face protection: Wear safety glasses with side shields (or goggles).

Hand Protection: Wear protective gloves and protective clothing.

Skin and body protection: Wear chemical-resistant gloves, footwear and protective clothing appropriate for risk of exposure.

Respiratory protection: No protective equipment is needed under normal use conditions. If exposure limits are

exceeded or irritation is experienced, ventilation and evacuation may be required.

Environmental exposure controls: Organisational measures to prevent /limit releases, dispersion and exposure. Discharge into the environment must be avoided. Local authorities should be advised if significant spillages cannot be contained.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties:

Physical state: Liquid

Appearance: Colourless liquid

Odour: Odourless

Odour threshold: No data

Colour: Colourless

Property	Values	Remarks
pH		No Information available
Melting point/freezing point		No information available
Boiling Point		No information available
Flash point		No information available
Evaporation Rate		No information available
Flammability		No information available
Vapour pressure		No information available
Vapour Density		No information available
Specific Gravity		No information available
Water Solubility		No information available
Solubilities		No information available
Partition coefficient		No information available
Autoignition temperature		No information available

Decomposition temperature	No information available
Kinematic viscosity	No information available
Dynamic viscosity	No information available
Explosive properties	No information available
Oxidising properties	No information available

9.2. Other information

Softening point: No data available

Molecular weight: No data available

VOC Content (%): No data available

Density: No data available

Bulk density: No data available

Section 10: STABILITY AND REACTIVITY**10.1. Reactivity**

The product is stable and non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under recommended storage conditions. Stable under normal conditions.

10.3. Possibility of hazardous reactions

Hazardous polymerization: Hazardous polymerisation does not occur.

Possibility of Hazardous Reactions: None under normal processing.

Hazardous combustion products: No information available.

10.4. Conditions to avoid

None known based on information supplied.

10.5. Incompatible materials

Strong oxidising agents.

10.6. Hazardous decomposition products

None known based on information supplied.

Section 11: TOXICOLOGICAL INFORMATION**11.1. Information on toxicological effects****Product Information:**

Inhalation: Under normal conditions of intended use, this material is not expected to be an inhalation hazard.

Eye contact: Irritating to eyes.

Skin Contact: Causes mild skin irritation.

Ingestion: No harmful effects expected in amounts likely to be ingested by accident

Acute toxicity:

1% of the mixture consists of ingredient(s) of unknown toxicity

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
---------------	-----------	-------------	-----------------

Sodium Lauryl Sulfate	-	-	-
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Skin corrosion/irritation: Causes mild skin irritation.

Serious eye damage/eye irritation: Causes serious eye irritation.

Sensitisation: Not classified.

Germ cell mutagenicity: Not classified.

Carcinogenicity: Not classifiable as a human carcinogen.

Reproductive toxicity: Not classified.

Developmental Toxicity: Not classified.

Teratogenicity: Not classified.

STOT - single exposure: Not classified.

STOT - repeated exposure: Not classified.

Target organ effects: Not classified.

Symptoms: None known.

Aspiration hazard: Not classified.

Section 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Product Aquatic Toxicity Status; Not considered to be harmful to aquatic life

Contains 0 % of components with unknown hazards to the aquatic environment

Chemical name	Algae/aquatic plants	Fish	Crustacea	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Sodium lauryl sulfate 151-21-3	3.59 - 15.6 mg/L: EC50 96 h Pseudokirchneriella subcapitata static 30 - 100 mg/L: EC50 96 h Desmodesmus subspicatus 117 mg/L: EC50 96 h Pseudokirchneriella subcapitata 53 mg/L: EC50 72 h Desmodesmus subspicatus	10.2 - 22.5 mg/L: LC50 96 h Pimephales promelas semi-static 10.8 - 16.6 mg/L: LC50 96 h Poecilia reticulata static 13.5 - 18.3 mg/L: LC50 96 h Poecilia reticulata semi-static 15 - 18.9 mg/L: LC50 96 h Pimephales promelas static 22.1 - 22.8 mg/L: LC50 96 h Pimephales promelas static 4.06 - 5.75 mg/L: LC50 96 h Lepomis macrochirus static 4.2 - 4.8 mg/L: LC50 96 h Lepomis macrochirus flow-through 4.3 - 8.5 mg/L: LC50 96 h Pimephales promelas static 6.2 - 9.6 mg/L: LC50 96 h Pimephales promelas 8 - 12.5 mg/L: LC50 96 h Pimephales promelas static 9.9 - 20.1 mg/L:	1.8 mg/L: EC50 48 h Daphnia magna	Acute Tox. 4 (H302) Skin Irrit. 2 (H315) Eye Dam. 1 (H318) STOT SE 3 (H336) Aquatic Acute 2 (H401) Aquatic Chronic 2 (H411)

		LC50 96 h Brachydanio rerio semi-static 1.31 mg/L: LC50 96 h Cyprinus carpio semi-static 4.2 mg/L: LC50 96 h Oncorhynchus mykiss 4.5 mg/L: LC50 96 h Lepomis macrochirus 4.62 mg/L: LC50 96 h Oncorhynchus mykiss flow-through 7.97 mg/L: LC50 96 h Brachydanio rerio flow-through		
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12.2. Persistence and degradability

No information available

12.3. Bioaccumulative potential

Chemical Name	Partition coefficient
Sodium lauryl sulfate 151-21-3	1.6

12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

Not a PBT or vPvB substance or mixture.

12.6. Other adverse effects

No data available.

Section 13: DISPOSAL CONSIDERATIONS
13.1. Waste treatment methods
Waste from residues/unused products:

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging:

Do not re-use container. Disposal should be in accordance with applicable regional, national and local laws and regulations.

Waste codes / waste designations according to EWC / AVV:

Waste codes should be assigned by the user based on the application for which the product was used.

Regional, national and local regulations apply.

Other Information:

No information available

Disposal considerations:

Should not be released into the environment This material and its container must be disposed of in a safe way.

Section 14: TRANSPORT INFORMATION**IMDG**

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated

Packing Group: Not regulated

Marine pollutant: Not Applicable

Special Provisions: None

Transport in bulk according to Annex II of MARPOL and the IBC Code: Not applicable

RID

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

Transport in bulk according to Annex II of MARPOL and the IBC Code: Not applicable

ADR

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

Transport in bulk according to Annex II of MARPOL and the IBC Code: Not applicable

ICAO (air)

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

Transport in bulk according to Annex II of MARPOL and the IBC Code: Not applicable

IATA

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

Transport in bulk according to Annex II of MARPOL and the IBC Code: Not applicable

DOT

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

TDG

UN/ID no: Not regulated
Proper shipping name: Not regulated
Hazard Class: Not regulated
Packing Group: Not regulated
Environmental hazard: Not Applicable
Special Provisions: None

MEX

UN/ID no: Not regulated
Proper shipping name: Not regulated
Hazard Class: Not regulated
Packing Group: Not regulated
Environmental hazard: Not Applicable
Special Provisions: None

ADN

UN/ID no: Not regulated
Proper shipping name: Not regulated
Hazard Class: Not regulated
Packing Group: Not regulated
Environmental hazard: Not Applicable
Special Provisions: None

Section 15: REGULATORY INFORMATION**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****European Union:****EU-REACH (1907/2006) – List of Registered Substances**

Chemical name	EU - REACH (1907/2006) - List of Registered Substances
Sodium lauryl sulfate 151-21-3	Present

Take note of Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values:
not applicable.

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work. Not applicable

Take note of Directive 94/33/EC on the protection of young people at work: Not Applicable.

Take note of Directive 92/85/EC on the protection of pregnant and breastfeeding women at work: Not applicable.

International Inventories:

TSCA: Complies
DSL/NDSL: Complies
EINECS/ELINCS: Complies
ENCS: Does not comply
IECSC: Complies
KECL: Complies
PICCS: Complies
AICS: Complies

INSQ: Complies

US Federal Regulations:**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Acute health hazard: No

Chronic Health Hazard: No

Fire hazard: No

Sudden release of pressure hazard: No

Reactive Hazard: No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

US State Regulations**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

This product does not contain any substances regulated by state right-to-know regulations.

U.S. EPA Label Information

EPA Pesticide Registration Number: Not Applicable.

15.2. Chemical safety assessment

For this substance a chemical safety assessment has not been carried out.

Australian Regulations

See section 8 for national exposure control parameters.

Classified as a hazardous substance in accordance with the criteria of Safe Work Australia - Globally Harmonised System (GHS).

Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

No poisons schedule number allocated

Section 16: OTHER INFORMATIONFurther information

The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality

specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

It remains the user's own responsibility to make sure that the information is appropriate and complete for his specific use of this product. The user is also responsible for observing any laws and applicable guidelines.

1 IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING**1.1 Component identifier****TAGMENTATION WASH BUFFER****1.2 Relevant identified uses of the substance or mixture and uses advised against:**

Reagent.

Uses advised against: No information available.

1.3 Details of the supplier of the safety data sheet:

Refer to Page 1

Section 2: HAZARDS IDENTIFICATION: TAGMENTATION BUFFER**2.1. Classification of the substance or mixture**

Regulation (EC) No 1272/2008: This mixture is classified as not hazardous according to regulation (EC) 1272/2008 (GHS)

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200). Not a dangerous substance or mixture according to the Globally Harmonized System (GHS)

2.2. Label elements

This mixture is classified as not hazardous according to regulation

Signal word:

None

Hazard statements:

Not applicable

Precautionary Statements**EU (§28, 1272/2008), US and AUS Regulation:**

Handle in accordance with good industrial hygiene and safety practice

P101 - If medical advice is needed, have product container or label at hand

P273 - Avoid release to the environment

P391 - Collect spillage

P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable

Hazards not otherwise classified (HNOC): Not applicable

Unknown acute toxicity: 1.2% of the mixture consists of ingredient(s) of unknown toxicity

2.3. Other hazards

Other hazards: None known

Persistence and degradability: See Section 12 for additional Ecological Information.

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS**3.1. Substances**

Not Applicable.

3.2. Mixtures

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [GHS].

Additional information: No information available

Component Information

Chemical name	CAS No	Weight-%
1,3-Propanediol, 2-amino-2-(hydroxymethyl)-	77-86-1	1 - 5%

Section 4: FIRST AID MEASURES**4.1. Description of first aid measures**

General advice: Use first aid treatment according to the nature of the injury

Inhalation: If symptomatic, move to fresh air. If symptoms persist, call a doctor.

Skin Contact: Wash skin with soap and water. Get medical attention if irritation develops and persists

Eye contact: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

Ingestion: Get medical advice/attention.

Self-protection of the first aider: Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

Most important symptoms and effects, both acute and delayed:

Symptoms: No information available.

Indication of any immediate medical attention and special treatment needed:

Note to physicians: Treat symptomatically.

Section 5: FIRE FIGHTING MEASURES**5.1. Extinguishing media**

Suitable extinguishing media: Water. Water spray (fog). Foam. Dry chemical. Carbon dioxide (CO₂).

Unsuitable extinguishing media: None known.

5.2. Special hazards arising from the substance or mixture

None known.

Hazardous combustion products: No information available.

Explosion data Sensitivity to Mechanical Impact: None.

Sensitivity to Static Discharge: None.

5.3. Advice for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Section 6: ACCIDENTAL RELEASE MEASURES**6.1. Personal precautions, protective equipment and emergency procedures**

Personal precautions: Use personal protective equipment as required.

For emergency responders: Use personal protection recommended in Section 8. Keep unnecessary personnel away.

For non-emergency personnel: Use personal protective equipment as required.

6.2. Environmental precautions

Environmental precautions: Avoid discharge into drains, water courses, or onto the ground.

6.3. Methods and material for containment and cleaning up

Methods for containment: Prevent further leakage or spillage if safe to do so. Dyke far ahead of liquid spill for later disposal.

Methods for cleaning up: Use personal protective equipment as required. Contain and collect spillage with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see Section 13).

Large spill Prevent runoff from entering drains, sewers, or streams. Dyke far ahead of liquid spill for later disposal.

Prevention of secondary hazards: Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

See section 13 for more information. See section 8 for more information.

Section 7: HANDLING AND STORAGE**7.1. Precautions for safe handling**

Advice on safe handling: Use personal protective equipment as required. Handle in accordance with good industrial hygiene and safety practice.

General Hygiene Considerations: Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions: Keep container tightly closed in a dry and well-ventilated place. Keep/store only in original container. Store away from incompatible materials.

Incompatible Materials: Strong oxidizing agents.

7.3. Specific end use(s)

Specific use(s): reagent.

Risk Management Methods (RMM): The information required is contained in this Material Safety Data Sheet.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**8.1. Control parameters****Exposure Limits:**

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Derived No Effect Level (DNEL): No information available.

Predicted No Effect Concentration (PNEC): No information available.

8.2. Exposure controls

Engineering Controls: Showers, Eyewash stations, Ventilation systems.

Personal protective equipment

Eye/face protection: Wear safety glasses with side shields (or goggles).

Hand Protection: Wear protective gloves and protective clothing.

Skin and body protection: Wear chemical-resistant gloves, footwear and protective clothing appropriate for risk of exposure.

Respiratory protection: In case of insufficient ventilation, wear suitable respiratory equipment.

Environmental exposure controls: Organisational measures to prevent /limit releases, dispersion and exposure. Discharge into the environment must be avoided. Local authorities should be advised if significant spillages cannot be contained.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties:

Physical state: Liquid

Appearance: Colourless liquid

Odour: Odourless

Odour threshold: No data

Colour: Colourless

Property	Values	Remarks
pH		No Information available
Melting point/freezing point		No information available
Boiling Point		No information available
Flash point		No information available
Evaporation Rate		No information available
Flammability		No information available
Vapour pressure		No information available
Vapour Density		No information available
Specific Gravity		No information available
Water Solubility		No information available
Solubilities		No information available
Partition coefficient		No information available
Autoignition temperature		No information available
Decomposition temperature		No information available
Kinematic viscosity		No information available
Dynamic viscosity		No information available
Explosive properties		No unusual fire or explosion hazards noted
Oxidising properties		No information available

9.2. Other information

Softening point: No data available

Molecular weight: No data available

VOC Content (%): No data available

Density: No data available

Bulk density: No data available

Section 10: STABILITY AND REACTIVITY

10.1. Reactivity

The product is stable and non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under recommended storage conditions. Stable under normal conditions.

10.3. Possibility of hazardous reactions

Hazardous polymerisation: Hazardous polymerisation does not occur.

Possibility of Hazardous Reactions: None under normal processing.

Hazardous combustion products: No information available.

10.4. Conditions to avoid

Heat.

10.5. Incompatible materials

Strong oxidising agents.

10.6. Hazardous decomposition products

Thermal decomposition can lead to release of irritating and toxic gases and vapours.

Section 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Product Information: Low hazard for usual industrial or commercial handling by trained personnel.

Inhalation: Under normal conditions of intended use, this material is not expected to be an inhalation hazard.

Eye contact: No known effect based on information supplied

Skin Contact: No known effect based on information supplied

Ingestion: No known effect based on information supplied

Acute toxicity

Unknown acute toxicity: 1.2% of the mixture consists of ingredients(s) of unknown toxicity.

Component information

Skin corrosion/irritation: Not classified.

Serious eye damage/eye irritation: Not classified.

Sensitisation: Not classified.

Germ cell mutagenicity: Not classified.

Carcinogenicity: This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP

Reproductive toxicity: Not classified.

Developmental Toxicity: Not classified.

Teratogenicity: Not classified.

STOT – single exposure: Not classified.

STOT – repeated exposure: Not classified.

Target organ effects: None known

Symptoms: None known.

Aspiration hazard: Not classified.

Section 12: ECOLOGICAL INFORMATION**12.1. Toxicity**

Product Aquatic Toxicity Status; Not considered to be harmful to aquatic life. Contains 1.3 % of components with unknown hazards to the aquatic environment

12.2. Persistence and degradability

Not a PBT or vPvB substance or mixture.

This mixture contains no substance considered to be persistent, bioaccumulating or toxic (PBT).

12.3. Bioaccumulative potential

No data available

12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

Not a PBT or vPvB substance or mixture.

12.6. Other adverse effects

No data available

Section 13: DISPOSAL CONSIDERATIONS**13.1. Waste treatment methods****Waste from residues/unused products:**

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging:

Do not re-use container. Disposal should be in accordance with applicable regional, national and local laws and regulations.

Waste codes / waste designations according to EWC / AVV:

Waste codes should be assigned by the user based on the application for which the product was used.

Regional, national and local regulations apply.

Other Information:

Waste codes should be assigned by the user based on the application for which the product was used.

Disposal considerations:

Should not be released into the environment This material and its container must be disposed of in a safe way.

Section 14: TRANSPORT INFORMATION**IMDG**

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated

Packing Group: Not regulated

Marine pollutant: Not Applicable

Special Provisions: None

Transport in bulk according to Annex II of MARPOL and the IBC Code: Not Applicable

RID

UN/ID no: Not regulated

Proper shipping name: Not regulated
Hazard Class: Not regulated
Packing Group: Not regulated
Environmental hazard: Not Applicable
Special Provisions: None
Transport in bulk according to Annex II of MARPOL and the IBC Code: Not Applicable

ADR

UN/ID no: Not regulated
Proper shipping name: Not regulated
Hazard Class: Not regulated
Packing Group: Not regulated
Environmental hazard: Not Applicable
Special Provisions: None
Transport in bulk according to Annex II of MARPOL and the IBC Code: Not Applicable

ICAO (air)

UN/ID no: Not regulated
Proper shipping name: Not regulated
Hazard Class: Not regulated
Packing Group: Not regulated
Environmental hazard: Not Applicable
Special Provisions: None
Transport in bulk according to Annex II of MARPOL and the IBC Code: Not Applicable

IATA

UN/ID no: Not regulated
Proper shipping name: Not regulated
Hazard Class: Not regulated
Packing Group: Not regulated
Environmental hazard: Not Applicable
Special Provisions: None
Transport in bulk according to Annex II of MARPOL and the IBC Code: Not Applicable

DOT

UN/ID no: Not regulated
Proper shipping name: Not regulated
Hazard Class: Not regulated
Packing Group: Not regulated
Environmental hazard: Not Applicable
Special Provisions: None

TDG

UN/ID no: Not regulated
Proper shipping name: Not regulated
Hazard Class: Not regulated
Packing Group: Not regulated
Environmental hazard: Not Applicable
Special Provisions: None

MEX

UN/ID no: Not regulated
Proper shipping name: Not regulated
Hazard Class: Not regulated
Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

ADN

UN/ID no: Not regulated

Proper shipping name: Not regulated

Hazard Class: Not regulated

Packing Group: Not regulated

Environmental hazard: Not Applicable

Special Provisions: None

Section 15: REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

European Union:

REACH (1907/2006)

Other regulations:

Take note of Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values:

Not applicable

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work: Not applicable

Take note of Directive 94/33/EC on the protection of young people at work: Not applicable.

Take note of Directive 92/85/EC on the protection of pregnant and breastfeeding women at work: Not applicable

Australia

See section 8 for national exposure control parameters.

Not classified as a hazardous substance in accordance with the criteria of Safe Work Australia - Globally Harmonised System (GHS)

Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP)

Classified as a scheduled poison according to the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP)

Poison Schedule Number 4

Chemical name	Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP)	Poison Schedule Number
1,3-Propanediol, 2-amino-2-(hydroxymethyl)- - 77-86-1	4: in preparations for injection except in preparations containing ≤3% of Trometamol	4

International Inventories:

TSCA: Complies

DSL/NDSL: Complies

EINECS/ELINCS: Complies

ENCS: Does not comply

IECSC: Complies

KECL: Complies

PICCS: Complies

AICS: Complies

INSQ: Complies

US Federal Regulations:**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Acute health hazard: No

Chronic Health Hazard: No

Fire hazard: No

Sudden release of pressure hazard: No

Reactive Hazard: No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

US State Regulations**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Water 7732-18-5	-	-	X

U.S. EPA Label Information

EPA Pesticide Registration Number: Not Applicable.

15.2. Chemical safety assessment

For this substance a chemical safety assessment has not been carried out.

Section 16: OTHER INFORMATIONFurther information

The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

It remains the user's own responsibility to make sure that the information is appropriate and complete for his specific use of this product. The user is also responsible for observing any laws and applicable guidelines.

Revision History

Version	Date	Modification	Reference/ Justification
1.0	10Nov20	First version of the SDS. Issued by Emma Naughton 14Nov19	New Document
2.0	29May20	Addition of RUO product codes. Issued by Emma Naughton on 29May20	N/A
3.0	10Nov20	Updated for 96/384 product codes. Issued by Aisling Murphy on 10Nov20	N/A
4.0	11May21	Tagmentation Buffer: Addition of Reproductive toxicity details for Hybridization Buffer 1: Addition of warning H351 for Formamide and addition of STOT – repeated exposure details for Tagmentation Buffer. Addition of warning H351 for Formamide, addition of acute toxicity details for Capture Beads. Addition of SDS for Stop Buffer and Tagmentation Wash Buffer. Combined SDS for AlloSeq Tx Probes, AlloSeq Index Primers and PCR Primers. Issued by LL 26 May 21	N/A
4.1	01Jun21	Updated to include Set B product code ASTX17.1(24)-B-IVD Reissued by LL 24 Jun 21	N/A
4.2	17Jan22	Updated to include new product codes (Tx 17 (96) CE IVD and Tx 9 RUO and CE IVD) and amend table of contents. Reissued by E. Naughton on 13Apr22	N/A
4.3	03Oct23	Update to remove ASTX8.1 (384)-A-RUO product code because of the end of life of this product variant.	CR-2022-050
4.4	22Feb24	Changed hazardous status to 'yes' for Stop Buffer on cover page. Corrected reagent name in Section 2: HAZARDS IDENTIFICATION: STOP BUFFER.	NCR-2024-008